WORKSTATION NEWS

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LATEST

Has Apple-DEC match cooled?

NEW YORK — As happens in all marriages, the honeymoon is over.

Dexpo East '89, taking place this week in New York, comes just about a year after Apple and Digital Equipment Corp. announced an alliance aimed at integrating their technologies. The show will bring another round of third-party connectivity announcements, but nothing so dramatic as some had originally expected the relationship to yield.

At the January 1988 Macworld Expo in San Francisco, Apple CEO John Sculley and DEC CEO Kenneth H. Olsen made it clear that the two companies would co-develop networking products yet remain competitive. "We'll still fight tooth and nail in all markets," Olsen said then.

See DEXPO, Page 8

Claris restricts tech support

MOUNTAIN VIEW, Calif. — Claris Corp. will no longer provide technical support for users of Apple-labeled versions of the applications it now distributes, the software company announced last week. Owners of early versions of MacWrite, MacPaint, MacDraw and MacProject will have to "take advantage of our modestly priced upgrade program" to remain eligible for support, said Bob Gafford, Claris' customer support director. □

Colby shows WalkMac SE/030

FRESNO, Calif. — Colby Systems Corp. last week demonstrated the WalkMac SE/030, a 12-pound, battery-powered portable version of Apple's SE/30. Tentatively priced at $6,495 and scheduled to be available in two to three months, the portable unit will include a SuperDrive, 2 Mbytes of RAM (expandable to 8 Mbytes) and a back-lit super-twist LCD screen as large as the SE/30's own built-in screen. A color display card will fit in the unit, and a 40-Mbyte hard drive and 2,400-bps modem will be available as options. □

Peripherals to co-star with IIcx

West German stage set for new monitors, drive, CPU

BY JONATHAN PERROW

CUPERTINO, Calif. — Apple will roll out an array of new peripherals along with its Mac IIcx, a scaled-down version of the 68030-based Mac IIx with three NuBus slots, on March 7 at the Hannover Faire in Hanover, West Germany.

The company is expected to take the wraps off a long-awaited 21-inch monochrome monitor, a 15-inch portrait monochrome monitor and a 160-Mbyte hard disk, according to sources close to Apple.

Although pricing and configurations for the newest Mac are still unclear, an entry-level Mac IIcx is likely to have 1 Mbyte of RAM and one floppy drive, sources said. The downsized box has room for a 3.5-inch internal hard disk but not enough for a second floppy drive or for a 5.25-inch hard disk.

The machine offers the modularity of the IIx but is more compact. Like the Mac IIx and SE/30, the IIcx will have a SuperDrive high-density floppy drive, a 68030 CPU and a 68882 math coprocessor. According to sources, the machine will be positioned at the low end of the modular Mac II line. Apple sources continue to deny persistent reports that the existing 68020-based Mac II will be discontinued when the more compact and lower-priced IIcx goes into full production.

The IIcx is expected to be priced closer to the SE/30 than the Mac

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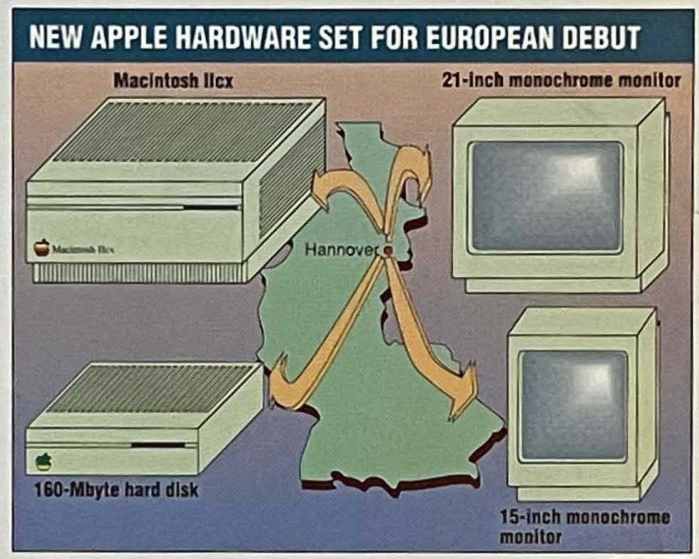

LASLO VESPREMI

Sculley defends decisions at shareholders meeting

Promises laptop intro this year

BY DAN RUBY

CUPERTINO, Calif. — The sudden drop in Apple's expected profits "does not represent a fundamental change in the company's economics," CEO John Sculley told shareholders at Apple's annual meeting last week.

But at least one group of shareholders has filed a class action lawsuit against the company, alleging that Apple violated federal securities laws by failing to disclose pertinent information when it made its original second-quarter earnings projection on Jan. 17.

Besides defending the business decisions that led to the profit decline, including September price increases that he admitted were "overwhelmingly unpopular," Sculley and Al Eisenstat, senior vice president, commented on a range of other matters.

▸ Apple will introduce its long-awaited laptop Macintosh this year, probably during the summer, Sculley said. He said that the introduction would be controlled by availability of the new technology used for the laptop's flat-panel display.

▸ Development of a low-price, entry-level Macintosh is a company priority, but because of fundamental design changes involved it remains "several years out," Sculley said.

▸ Apple has engaged in "conversations" with Microsoft regarding its copyright lawsuit but is proceeding as if the case will go to trial, according to Eisenstat. Both parties, however, filed motions last week that may lead to a resolution of their dispute without a trial (see story, Page 62).

Sculley faced several pointed questions about the company's latest financial disclosures but no angry clamor from the shareholders.

He acknowledged that last fall's decisions to raise prices and to acquire high-priced dynamic RAM on the spot market had backfired (see related story, Page 61). He predicted, however, that the company's inventory of high-priced memory will be fully absorbed during the second quarter, and that profits should therefore improve in the second half of the company's fiscal year.

Sculley added that the company had already observed an increase in

See MEETING, Page 8

DRAKE SOREY

Al Eisenstat (left) and John Sculley told shareholders that the laptop's introduction is near but a low-priced Mac is distant.

Logical zones, more nodes in AppleTalk 2.0

BY JON SWARTZ

CUPERTINO, Calif. — A new version of AppleTalk that would stretch its 255-node limit and include links to much faster Ethernet and Token-Ring networks could be available as early as this summer.

AppleTalk 2.0, code-named North, has been in beta testing since last fall. According to several test sites, the new software is a marked improvement over the original AppleTalk. Although the upgrade will have the same rated speed — 230 Kbits per second — testers said that the new version seems appreciably faster in some configurations.

"If I had this software several months ago, it would have changed

See APPLETALK, Page 8

SuperCard: Dealing with a new deck

BY STEVE MICHEL

It was predictable, though unfortunate, that Silicon Beach's SuperCard would be called a "clone" of HyperCard. SuperCard is more accurately described as a program that understands a superset of HyperTalk and that adds a great number of functions.

REAL SOON

Many have asked how SuperCard can compete with a free product. However, Silicon Beach's aim is not to compete directly but to offer a number of new features to those who want to perform HyperCard-like tasks. For SuperCard does go beyond the original in several significant areas. We took a "top-down" tour of a pre-release version of SuperCard to see how it differs from HyperCard.

It does windows. First, SuperCard files, called "projects," can contain several of what HyperCard calls stacks. Each stack has its own window in SuperCard, and since projects can have multiple windows,

See SUPERCARD, Page 10

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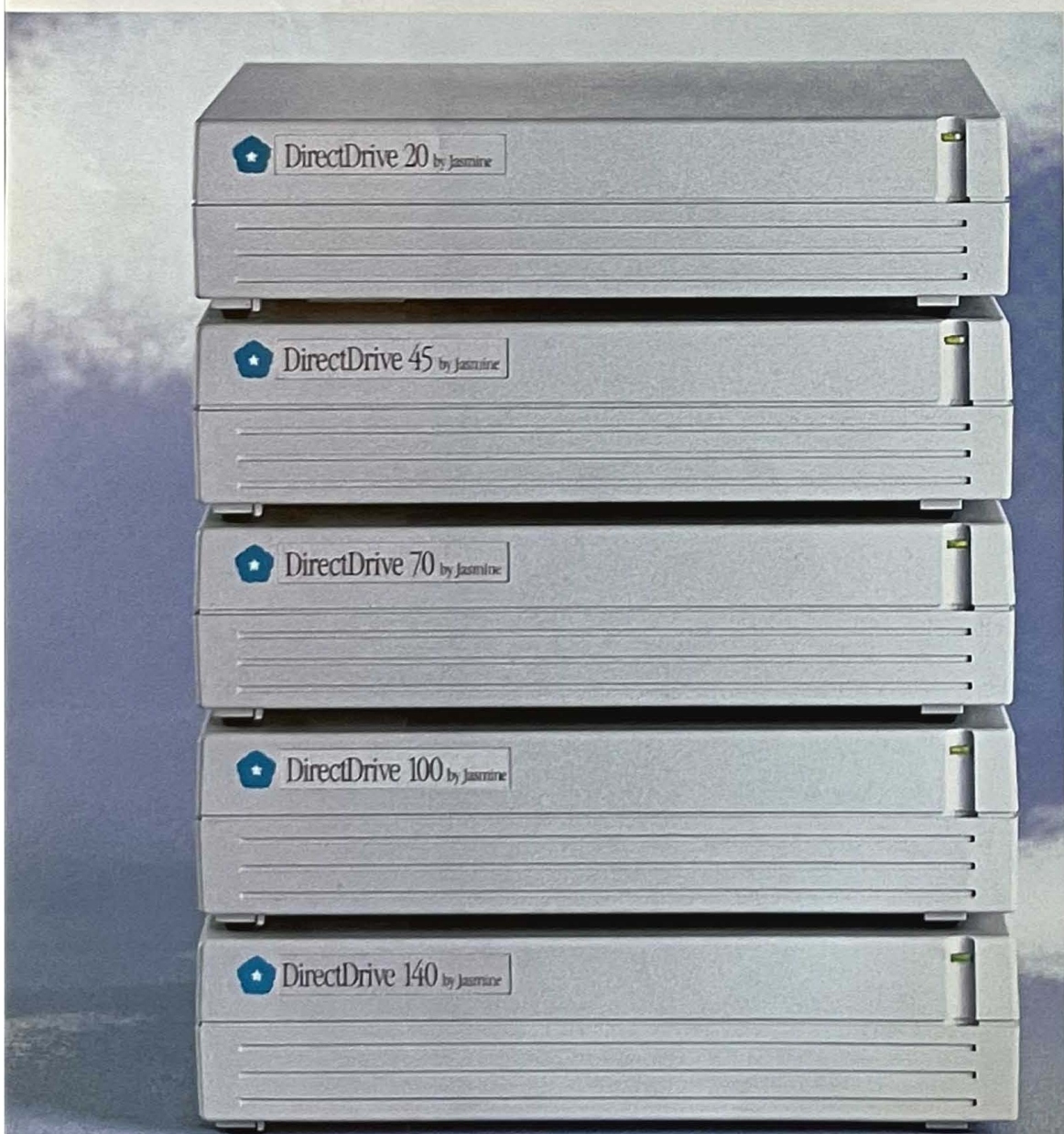

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Mac thief caught with the goods

Foiled by his own project management

BY CLIFF LEHMAN

LOS ANGELES — When Los Angeles police swooped in, guns drawn, to bust Peter Michael Parrott as he stood showing off a storage room stacked to the rafters with Mac SEs, IIs and LaserWriters, Parrott was surprised.

He should not have been.

The machines were hot, and he had already sold several of them to a Mac consultant who also happened to be a reserve deputy sheriff with the rank of captain in L.A. County.

Well dressed and smooth-talking, Parrott had walked into the office of Mac consultant Jim Hackett in August 1987, flashing a business card from E.F. Hutton Co. and offering good deals on high volumes of Macs and peripherals.

Hackett jumped at the chance to score some inexpensive equipment for his business. Little did he know that he was about to lose several thousand dollars as a result of the deal. Parrott had stolen the Macs from Apple's offices in Newport Beach, Calif., only days before in a heist that left few, if any, clues.

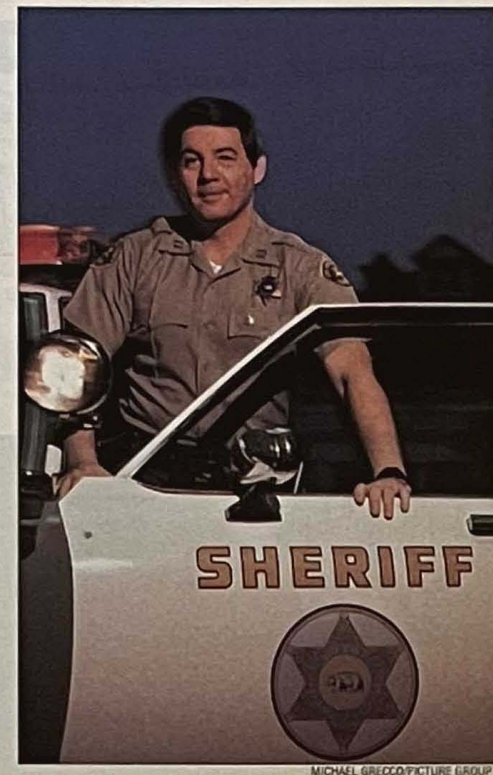
The thief was smooth, but not smooth enough. His fascination with the Mac and a compulsion to keep details of his plans on floppy disks were his undoing.

After the initial meeting and sale of Macs to Hackett, Parrott proposed a joint business venture in which he would provide machines for Hackett to lease to his customers. Parrott began to spend time working out of Hackett's office.

One night after Parrott had gone, Hackett picked up an unlabeled disk on Parrott's desk to back up his work. On opening the disk he found it to be anything but empty.

Hackett found several "strange" letters from Parrott, including one that explained to the National Association of Security Dealers how he had been fired from E.F. Hutton because of fraudulent trading activity, according to Hackett.

But the alarm bells did not ring for Hackett until he opened a Microsoft Word file named "New Cash." That document read in part:



MICHAEL GRECCO/PICTURE GROUP

Jim Hackett, a Mac consultant who doubles as a reserve deputy sheriff, put away the thief.

"Cut phone lines to the store ... . Observe store for police ... . Use torch to cut into store ... . Observe store for police again ... " and so on.

Hackett had stumbled onto Parrott's detailed plan for ripping off a computer store using an acetylene torch to cut through security gates.

Hackett, fearful for his business and reputation, shifted into high gear as a reserve deputy. He listed the serial numbers of the machines brought in by Parrott and ran them through the NCIC computer network, a system that tracks the serial numbers of stolen equipment. The computer reported that the numbers matched those reported by Apple after the Newport Beach burglary.

With the aid of fellow officers, Hackett set a trap. Using the bait of a big sale that required every machine Parrott had, Hackett lured the thief into taking him to his cache of stolen goods. Parrott was busted the following morning.

Tried and convicted of the burglary in December 1988, Parrott was sentenced last month to two years in state prison. He still faces charges for a cutting-torch burglary of a Los Angeles computer store.

Unfortunately, Parrott managed to sell some of the machines through newspaper ads before being arrested. Since Apple dealers, as well as police departments, keep lists of the serial numbers of stolen machines, Mac owners who bought their machines from Parrott should be aware that the equipment could be subject to confiscation. □

Mac AutoCAD due in March

SAUSALITO, Calif. — Autodesk Inc. again delayed the release of a Mac version of its popular DOS-based CAD package, AutoCAD Release 10.

Release 10 premiered on DOS machines last spring with promises of a Mac version by early fall. That deadline was pushed to the first of the year and, with the passing of the old year, has been put off to March.

A company representative said delays in the release of the $3,000 package aren't due to problems but to the desire to improve its Mac interface.

Autodesk Inc. is located at 2320 Marinship Way, Sausalito, Calif. 94965; (415) 332-2344. □

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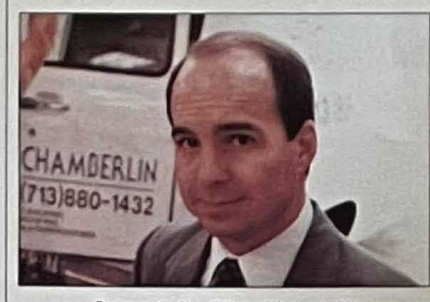

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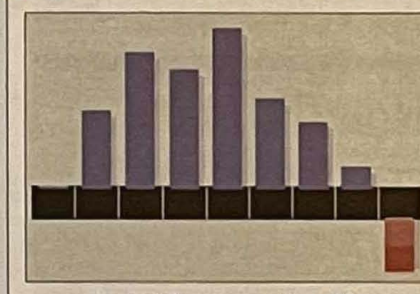

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MacWEEK is produced using an in-house system of: Apple Macintosh SEs and Mac IIs; LaserWriter, Varityper VT-600 and VT-600W, and QMS ColorScript 100 printers networked on Farallon PhoneNet; a Linotronic 300; an Ahaton Scanner; RasterOps, E-Machines and SuperMac monitors; and software including QuarkXPress, Aldus PageMaker, Adobe Illustrator, Aldus FreeHand, SuperPaint, Microsoft Word, LaserPaint and PixelPaint.

CD-ROM discs from the desktop

Applications in data multimedia

BY JOHN BATTELLE

LOS GATOS, Calif. — Optical Media International (OMI) last week demonstrated a hardware and software system that lets users create Mac-compatible CD-ROMs directly from a desktop computer.

Three years in development, OMI's TOPiX Spectrum System can pre-master, encode and record such information as database files, NTSC (National Television Standards Committee) video signals, and digitized voice and music from varied media onto a single compact disc in High Sierra, ISO 9660 or Apple HFS formats.

The system is targeted at CD-ROM publishers and professional sound studios as well as corporations with massive databases. It promises more flexibility, greater compatibility and speedier turnaround in data storage and delivery than previous recording technologies, according to Allen Adkins, president of OMI.

OMI mastered the CD-ROM version of Activision's Manhole interactive exploration game for children using the TOPiX system. The company is now working on a resource disc of clip sounds in Mac format, according to Adkins.

A basic turnkey recording system would start at about $150,000, Adkins said (see story below).

Analysts were impressed with the TOPiX technology, with varying degrees of enthusiasm:

▸ "Seeing Adkins sit down and create a CD on the desktop was like seeing [Adobe President John] Warnock demonstrate PageMaker, PostScript and the LaserWriter back in 1984," said Lou CasaBianca, editor and publisher of HyperMedia magazine of Emeryville, Calif.

▸ "It makes it easier for a CD publisher to go through multiple iterations and be responsive to market needs, but I would say it is one breakthrough of many that we'll see this year," said John Gale, president of Information Workstation Group, a consulting company in Alexandria, Va.

In its present incarnation, only the PC AT version of TOPiX can drive the disc recorder. The Mac version of TOPiX, macTOPiX, can, however, generate a CD-formatted master file that can be moved to the AT and recorded on CD-ROM from there. Adkins promised that a Mac II-based recording platform will be available in the third quarter and that Apple has "expressed a lot of interest, to say the least."

"This kind of technology is going to make my job much easier," said David Grabel, a project manager for CD-ROM projects at Apple.

Optical Media International is located at 485 Alberto Way, Los Gatos, Calif. 95032; (408) 395-4332. □

How TOPiX creates CDs

The TOPiX system is built largely around the CD recording technology of the Yamaha Programmable Disc System. The media used, a $165 CD write-once (or CD-PROM) disc, is manufactured only by Fuji Corp., although two or three more manufacturers are planning to come on line by the end of 1989, said Allen Adkins, president of Optical Media International.

Once collected and structured, the data destined for the CD-ROM is input into a "virtual CD," a file on a hard disk coded in any of several block structures used for CDs. The user can simulate CD-ROM use on screen, testing and verifying the virtual disc, and then write it directly to a recordable compact disc or to a nine-track or other portable storage system to use as a master for a CD pressing facility.

Disregarding data preparation time, a CD can be created using TOPiX in close to the same time taken to play the finished product.

A bare-bones turnkey system would include sufficient hard disk storage (no less than 760 Mbytes), the TOPiX recorder and encoder, a dedicated IBM PC AT or Mac II workstation, and the TOPiX software interface.

Total cost is about $150,000. — *By John Battelle*

MacDisk upgrade

SAN FRANCISCO — Priam Corp. recently announced an upgrade for its 230-Mbyte MacDisk hard drive to offer Mac users a 250-Mbyte storage capacity.

Called the EM250, the new 18-millisecond drive replaces the existing EM230 and will carry the same price as the older model, $3,295. The EM250 is available immediately.

The company also announced that it has begun bundling partitioning software with its high-capacity MacDisk storage systems.

Priam Corp. is at 20 W. Montague Expressway, San Jose, Calif., 95134; (408) 434-9300. □

Genius to ship flexible fax modem that works even when the Mac doesn't

BY EMILY BROWER

STUDIO CITY, Calif. — Yet another Mac developer will enter the increasingly crowded fax modem market this spring with a new product that can receive faxes while unattended, even when it's not attached to a Mac.

Called TransFax, the new fax modem from Genius Inc. of Studio City, Calif., contains an eight-page buffer that can receive and save fax files while the attached Mac is turned off. The device, which will ship with an enhanced version of BackFax from Solutions Inc. of Williston, Vt., sends the faxed files to the Mac once the computer is turned on.

This feature, which adds more standalone fax functionality to the fax modem, has obvious advantages for the receipt of overnight faxes, said Byron Wagner, company president.

Wagner also suggested that the TransFax would be a useful addition to the much anticipated Macintosh laptop. "You could leave the TransFax plugged in at your hotel, come back at night and plug your laptop in to receive your faxes," Wagner said.

The $1,295 TransFax is Group 3 compatible and transmits faxes at 9,600 bps. The shipped product will include enough RAM to save eight pages of data, but additional RAM can be added to create a 40-page buffer. Wagner said add-on RAM chips will be available from dealers when the product ships on March 15.

Genius Inc. is at 3958 Van Noord Ave., Studio City, Calif. 91604; (818) 905-8866. □

VideoShow, PhotoMetric for Mac ship

BY CONNIE GUGLIELMO

BERKELEY, Calif. — General Parametrics Corp. last month shipped Macintosh versions of its VideoShow portable presentations systems, PhotoMetric 35mm slide maker and presentation software.

VideoShow Professional, priced at $8,495, and the $2,695 VideoShow Executive are stand-alone devices that display Mac-generated presentations and images much in the way slide projectors display 35mm slides. They hook up to color monitors or video-projection systems and are operated via a remote controller. In addition to moving back and forth among images, the controller allows users to move an electronic pointer on the screen, overlay images and highlight text.

VideoShow Professional displays images with up to 100,000 colors, while Executive offers up to 1,000 colors.

General Parametrics also plans to release in March a low-cost system called VideoShow Companion. The $1,795 system, with a Mac, colorizes black-and-white images and projects them with up to 1,000 colors on RGB monitors.

The VideoShow systems display images created with any Mac software. The Mac file must be converted into VideoShow's format using a conversion and file compression utility supplied by General Parametrics.

Presentations can also be created using StarTime, a $199 program for editing, colorizing and sorting Mac-generated images. It offers such transitions as wipes and fades.

Natural Image Pak for Mac is designed for use with VideoShow Professional. The $6,595 package consists of Truevision's NuVista frame grabber board for the Mac II and General Parametrics' ImageProcessor software. Together, the two products let users capture, position, crop and compress live video images. ImageProcessor is also sold separately for $1,995.

Two other products were released for use with the VideoShow systems:

▸ The $4,495 PhotoMetric slide maker produces 4,000-line resolution color 35mm slides.

▸ PrintMaker, a $199 software package, lets users output VideoShow presentations in color to a CalComp 5902G thermal printer or to the Hewlett-Packard LaserJet Plus and LaserJet II printers.

General Parametrics Corp. is at 1250 Ninth St., Berkeley, Calif. 94710; (415) 524-3950. □

Truvel, Avalon agree to joint promotion

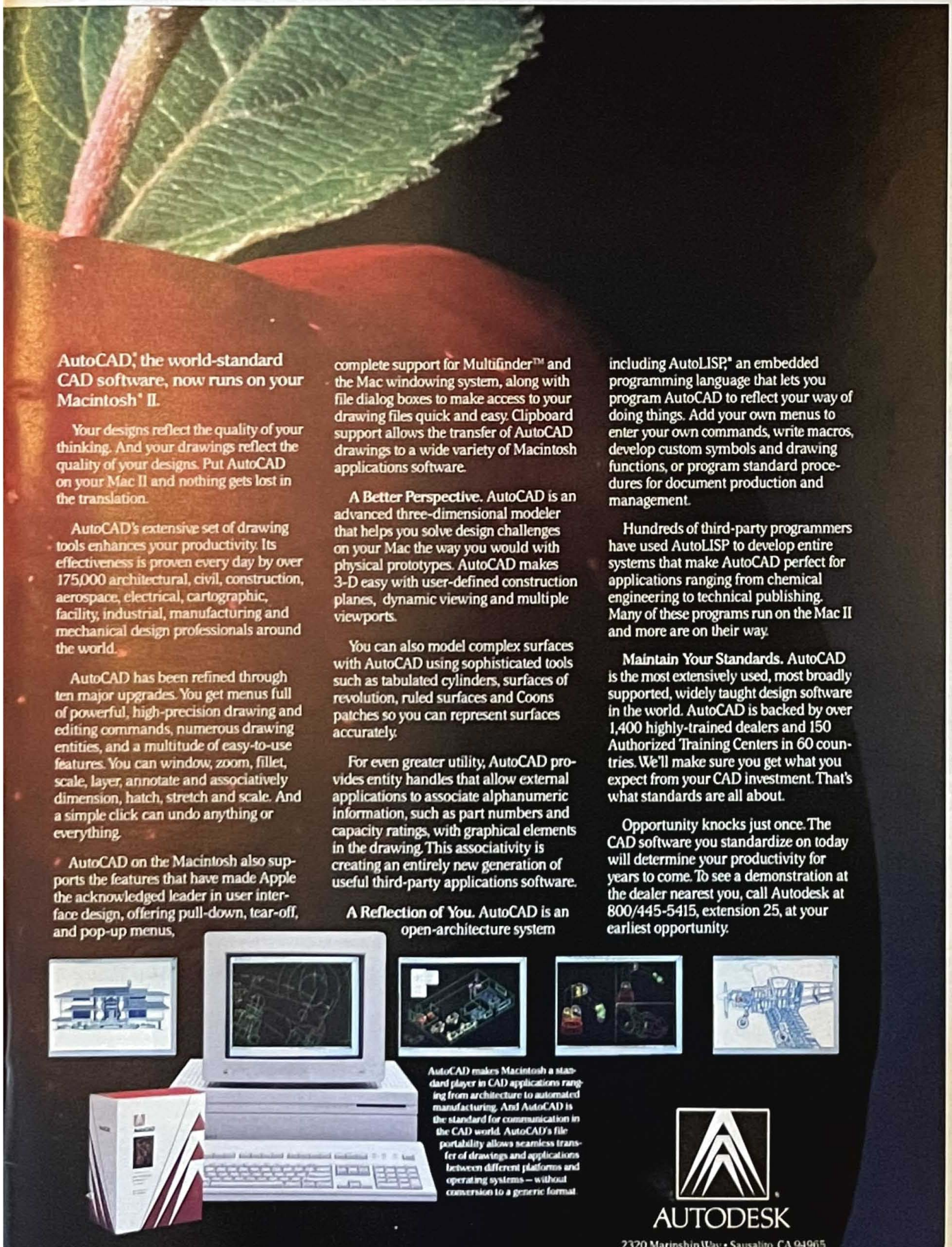
CHATSWORTH, Calif. — Truvel Corp. and Avalon Development Corp. last month agreed to jointly promote their 24-bit color products as a full solution for electronic publishing.

Truvel of Chatsworth, Calif., manufactures the TruScan TZ-3BWC, a black-and-white and color flatbed scanner capable of capturing up to eight bits (256 values) each of red, green and blue color information. Priced at $11,510, it scans at resolutions from 75 to 900 dpi.

Avalon of Cambridge, Mass., is the developer of PhotoMac, a photo-retouching and color-separation program. The $695 program lets users edit, retouch and color-correct scanned 24-bit color images.

Truvel is at 8943 Fullbright Ave., Chatsworth, Calif. 91311; (818) 407-1031.

Avalon is at 1000 Massachusetts Ave., Cambridge, Mass. 02138; (617) 661-1405. □



Special effects for video titling

Aegis ships Showcase F/X

BY CONNIE GUGLIELMO

SANTA MONICA, Calif. — Sending things into a spin is part of what Aegis Development Corp.'s new Showcase F/X software is all about.

The Santa Monica, Calif., developer last month started shipping the $395 video titling program, the first in its line of Animation Workshop products for the Mac II.

Showcase F/X provides tools for video titling, such as coloring text blocks, scrolling credits and zooming logos.

To create text effects, Showcase F/X offers tools for manipulating and editing type. Fonts can be filled with colors, patterns, and paint or video images. They can also be modified using 20 special effects, such as 3D Block, Embossed and Neon. The program ships with Poly fonts, object-based fonts that can be skewed, stretched, rotated, mirrored horizontally or vertically, and given perspective.

Showcase F/X, Aegis Development Corp.'s new video titling program, offers 20 special effects for manipulating text.

Text is animated using the program's ANIM recorder. Users position text on the screen, then move it to another location; the ANIM recorder automatically generates all the in-between frames.

Animated text can be displayed on top of any MacDraw, PixelPaint or PICT image. Genlocked video images can also be used as backgrounds. A Preview feature provides a quick look at the animation, with a playback rate of up to 60 frames per second.

Showcase F/X requires a Mac II with 2 Mbytes of RAM. It ships with an introductory videotape and a guided tour in the form of a HyperCard stack.

Aegis Development Corp. is located at 2115 Pico Blvd., Santa Monica, Calif. 90405; (213) 392-9972. □

RISC-based printers due from NewGen

BY CLIFF LEHMAN

SANTA ANA, Calif. — Promising significant speed advantages over most PostScript laser printers, a California company has introduced two printers based on Intel RISC chips and Raster Image Processing Systems' PostScript-clone interpreter.

NewGen Systems Corp. will ship the TurboPS/400 and TurboPS/300 in March for $6,495 and $5,495, respectively. The PS/400 has a resolution of 400 dpi, and the PS/300 has a resolution of 300 dpi, both using the Canon SX engine.

NewGen claims print speeds up to 15 times faster than other PostScript printers. The PS/400 comes with 3 Mbytes of RAM, expandable to 4 Mbytes; the PS/300 comes with 2 Mbytes of RAM, expandable to 4 Mbytes. In addition to the PostScript-compatible interpreter, the printers offer Hewlett-Packard LaserJet Series II and Epson LQ-800 emulations. A SCSI interface and hard disk will be available as options.

Both Turbos are compatible with Macintoshes, DOS and PS/2 machines, and each provides an AppleTalk interface.

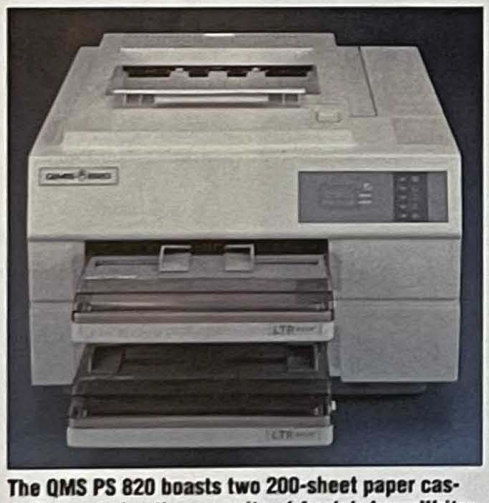
NewGen Systems Corp. is located at 3023 S. Harbor Blvd., Santa Ana, Calif. 92704; (714) 641-8196. □

Three QMS products improve paper handling

BY CLIFF LEHMAN

MOBILE, Ala. — Improved paper handling was the thrust of three product announcements from Mobile, Ala.-based QMS Inc. and its subsidiary Laser Connections Inc. last month.

A new PostScript printer from QMS, the PS 820, offers twice the paper capacity and engine life of the company's popular PS 810 offering.



The QMS PS 820 boasts two 200-sheet paper cassettes — twice the capacity of Apple's LaserWriter II family.

At the same time, Laser Connections announced a sheet feeder for the LaserWriter II family of laser printers, with a 1,000-sheet capacity as well as an envelope cassette that works with the LaserWriter IIs or any other printer using a Canon SX engine.

Based on the Canon TX print engine, the QMS PS 820 will replace the QMS 800 II, which used the now-discontinued CX engine.

Priced at $6,495, the 820 comes with two 200-sheet, letter-size paper input cassettes and has a rated engine life of 600,000 prints. The SX-based PS 810, priced at $5,495, comes with a 200-sheet tray and has a rated engine life of 300,000 prints.

Both printers are based on a 68000 chip and come with 2 Mbytes of RAM, expandable to 3 Mbytes. In addition to the Adobe PostScript interpreter, the printers have resident Hewlett-Packard LaserJet+, HP 7475A plotter and Diablo 630 emulations. AppleTalk is also standard.

Laser Connection introduced the BigBin 1000 sheet feeder and the SX Envelope Cassette Tray. Priced at $795, BigBin replaces the 200-sheet cassette that comes with the LaserWriter IIs. The Envelope Cassette tray holds up to 15 envelopes and fits into the paper cassette slot on SX printers. The Envelope Cassette tray costs $85.

QMS Inc. is located at 1 Magnum Pass, Mobile, Ala. 36618; (205) 633-4300.

Laser Connection Inc. is located at 7852 Schillinger Park W., Mobile, Ala. 36608; (205) 633-7223. □

Infinite Graphics ships IN-CAD engineering package

BY STEPHEN HOWARD

MINNEAPOLIS — Infinite Graphics Inc. announced last month that IN-CAD, its two-dimensional and 3-D engineering package, is now shipping to authorized Apple engineering resellers. The company said IN-CAD is the first product to combine "workstation-class" design, drafting and solids modeling features with Macintosh ease of use.

First previewed at last August's Macworld Expo in Boston, IN-CAD has subsequently undergone significant changes, according to Cliff Stritch, Infinite's CEO. The shipping version offers a more flexible environment for CAD/CAM work than other engineering applications, he said, because its dynamic sizing capabilities allow the user to manipulate 3-D solids directly on screen.

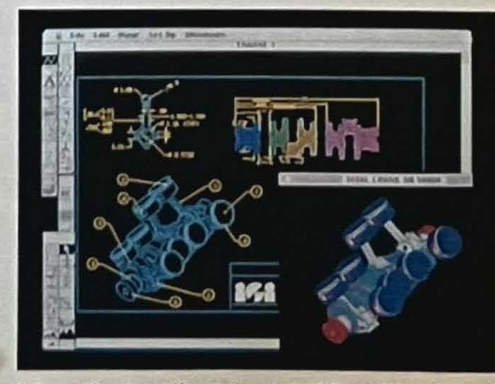
The integration of two-dimensional drafting with solids modeling makes IN-CAD "much faster and easier to use" than other engineering software, Stritch said.

The program supports a macro function for repetitive commands and a BASIC-like programming language for complex interaction. Translators for importing and exporting PICT, IGES and DXF files are included at no extra cost.

IN-CAD will run in eight colors on a Mac II or IIx with at least 2 Mbytes of RAM. Because it directly accesses the 68882 math coprocessor, IN-CAD will run approximately 30 percent faster on a Mac IIx. The program is MultiFinder compatible.

IN-CAD's suggested price is $2,495, but it is available at an introductory price of $1,945.

Infinite Graphics is located at 4611 E. Lake St., Minneapolis, Minn. 55406; (612) 721-6283. □



Integrating two-dimensional drafting with solids modeling makes IN-CAD "faster and easier to use."

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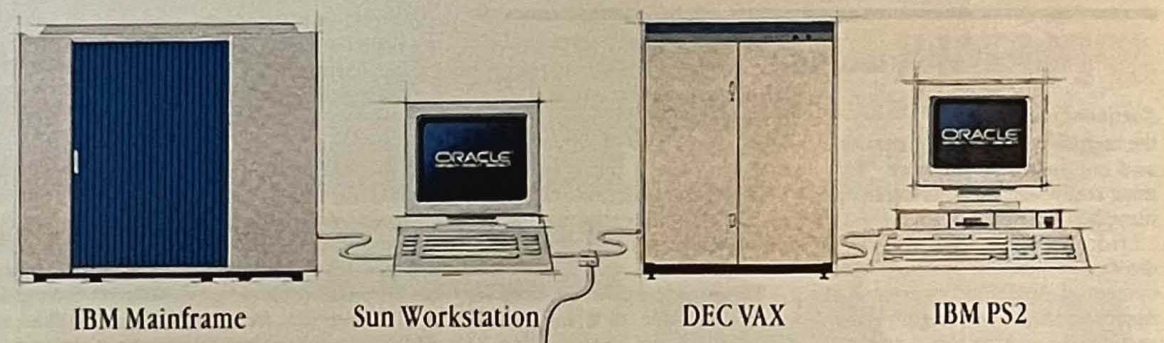

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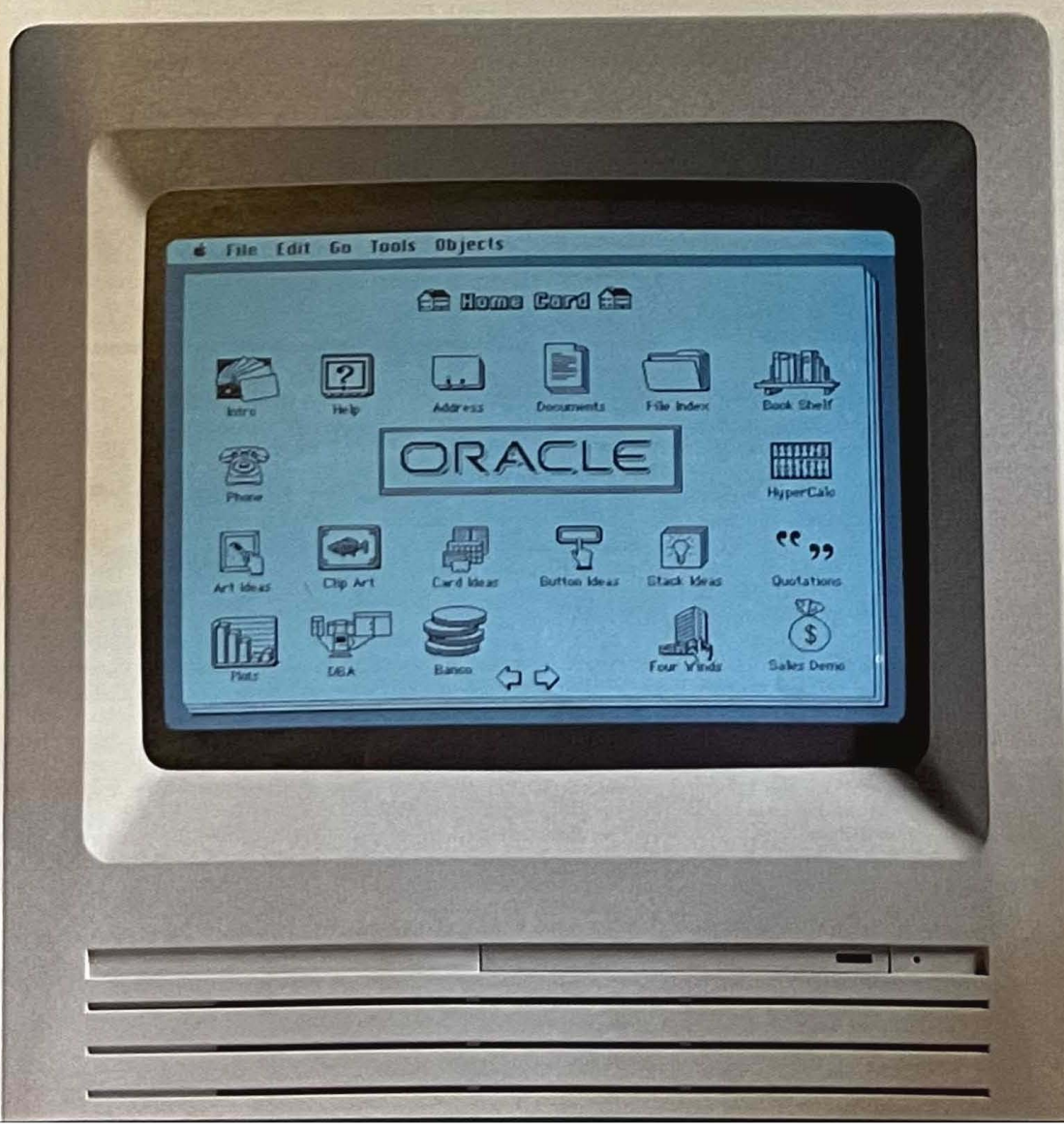

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TRBA

IICX

Continued from Page 1

IIx, according to sources.

Apple's 21-inch monochrome monitor, which has been in and out of beta testing for the better part of a year, will be announced at the European show as well. Apple's controller card for the monitor will run in one-, two- and four-bit modes, offering up to 16 shades of gray. Apple will not release an SE versions of the card at this time.

A 15-inch portrait monitor will also be announced, offering gray-scale display capabilities on a Radius-like full-page display.

Details about pricing for the monitors were unavailable.

The 160-Mbyte hard drive that Apple is expected to introduce will use a 5.25-inch Wren V half-height drive mechanism from Imprimis Technologies, a subsidiary of Control Data Corp. of Minneapolis. Because of the physical size of the disk, it will not fit in the Mac IIcx but is expected to be offered as an option for the Mac II and Mac IIx.

An external version of the drive that could be used with the IIcx, SE, SE/30 and Mac Plus is also expected, sources said.

The announcements at the Hannover Faire will give high visibility to Apple's burgeoning European market, which contributed more than $1 billion in revenue to the company in 1988. A low-key simultaneous announcement will be made in the United States, according to sources close to Apple. □

APPLETALK

Continued from Page 1

the entire structure of my network," said one beta test site user. "This thing really flies, and there aren't as many bottlenecks."

Gursharan Sidhu, technical director of network systems development at Apple and co-creator of AppleTalk, said that company policy prohibited him from commenting on unannounced products.

The major feature of AppleTalk 2.0 is an increase in AppleTalk's 255-node limit, which has usually restricted the network flexibility of corporate and research installations.

According to sources close to Apple, AppleTalk 2.0 adds the concept of 255 logical zones to each of the 255 internet zones currently supported by AppleTalk protocols.

An internet zone is an AppleTalk cable segment that can theoretically support up to 255 nodes, although Apple recommends a limit of about 32 per cluster when LocalTalk cabling is used. With Ethernet or broadband cabling, a maximum of 255 such clusters or individual users and file servers can be directly connected to create a complex internetwork.

In principle, with fiber-optic cabling installed, as many as 255 logical zones could link up to 65,025 directly connected gateways, users and servers on the same backbone.

Cactus Computer Inc. of Carrollton, Texas, currently makes and sells a similar product called Logical Zone Software.

Third-party AppleTalk vendors like Kinetics Inc. of Walnut Creek, Calif.; Farallon Computing Inc. of Berkeley, Calif.; Infosphere Inc. of Portland, Ore.; Cayman Systems Inc. of Cambridge, Mass.; and Shiva Corp. of Cambridge are developing new Ethernet cabling, routers, bridges and modems that are compatible with AppleTalk 2.0.

"Any product that changes AppleTalk needs to be supported by us," said one vendor, who requested anonymity. "When Apple talks, we have no choice sometimes but to jump."

Several users said they had expected AppleTalk 2.0 to ship in January, but Apple decided to postpone the release until a new system ships later in the year. "[Apple] didn't want to trickle out system software one piece at a time," said one source. "They want it all to come out at once." □

Mac-VAX products due at Dexpo

BY JON SWARTZ

NEW YORK — Possibly the only tangible product to come out of the Apple-Digital Equipment Corp. accord so far has been CL/1, the high-level, Structured Query Language-based connectivity language developed by Apple subsidiary Network Innovations Corp. of Cupertino, Calif.

Although it isn't expected to ship until midyear, the client and server software, which provides transparent access to VAX-based data from within personal computer applications, continues to pick up backing from third-party vendors.

Odesta Corp. will throw its support behind the language this week by demonstrating a CL/1 interface for several software business applications, including GeoQuery, its business-mapping software program that automatically creates interactive maps using data from a user's database, spreadsheets or mailing lists.

Odesta President Daniel Cheifetz said the Northbrook, Ill., company also is privately showing customers a CL/1 interface for Double Helix RMS, Odesta's database management system. Double Helix RMS provides support for record management system (RMS) files on the DEC VAX.

Meanwhile, Informix Software Inc. of Menlo Park, Calif., will announce that its line of SQL-based RDBMS software and 4GL application tools support CL/1.

"The Odesta commitment signals a new wave of business applications for CL/1," said Ed Forman, marketing director at Network Innovation. "We're now seeing a progression beyond other databases and spreadsheets to programs like GeoQuery."

The CL/1 announcements are expected to highlight Dexpo East '89 here. An estimated 10,000 people are expected to attend the show and nearly a fifth of the show's 200 vendors will be in an Apple-Digital Integration Center, according to show organizer Expoconsul International Inc. of Princeton, N.J.

The integration center, which accounts for a fourth of the show floor space at New York's Passenger Ship Terminal, Pier 90, will pack 125 Macs, 20 VAX systems and MS-DOS computers running over AppleTalk and DECnet networks. Apple and SynOptics Communications Inc. of Mountain View, Calif., are providing the wiring for the network.

In product-related news:

▸ Communications Research Group will demonstrate versions of its BLAST communications software running on Macs, PCs, VAXes, and Unix and Xenix machines, all using identical screens, commands, scripts and protocols. The Baton Rouge, La., company will also show its Private BLAST software, which allows corporate customers to set up restricted-access communications systems linking Mac, VAXes and other machines.

▸ cc:Mail of Palo Alto, Calif., will show cc:Mail DEClink, a new gateway allowing users of its multiplatform E-mail software to exchange messages with users of DEC's VAX-Mail and ALL-IN-1 mail systems. cc:Mail last month announced plans for a Mac version of its program. The new gateway, to be priced between $2,500 and $3,000 per network, is scheduled for summer release. □

DEXPO

Continued from Page 1

Sources close to DEC said the company originally wanted an agreement calling for Apple to sell VAXes and Macs together as part of a "total integration solution." When Apple balked, a press conference outlining future products was hastily arranged.

Many industry observers said they believe that the Apple/DEC relationship has cooled further since then. None of the products announced last year is expected to be available for several more months. Apple has since signed a value-added reseller agreement with Tandem Computers of Cupertino, Calif., while DEC has inked technology-sharing deals with Compaq Computer Corp. of Houston, MIPS Computer Systems Inc. of Sunnyvale, Calif., and Tandy Corp. of Fort Worth, Texas.

But despite its flaws, the Apple/DEC alliance remains a strong, vibrant bond that, as Sculley said a year ago, was created to meet the requests of Fortune 500 companies like E.I. du Pont de Nemours & Co. of Wilmington, Del., and General Electric Co. of Fairfield, Conn.

"It's been a great, great bonding of ideas from two companies, and it will continue to be," said Ed Forman, marketing director of Network Innovations Corp., a Cupertino-based Apple subsidiary that has developed a high-level SQL-based connectivity language called CL/1 (see related story, above). "Users want better network management, file sharing and database services among their Macs and VAXes, and they will get them in the next 12 months."

While opinions of the relationship run the gamut from ecstatic to pessimistic, the interdependence of Macs and VAXes remains constant.

According to Apple and DEC, about 36 percent of VAX sites now use Macs. D.H. Brown & Associates, a Tarrytown, N.Y., investment firm, estimates that Apple sold approximately 250,000 Mac IIs in 1988, thanks in part to the DEC connection.

"There is a natural fit to our product lines. The Mac and VAX happen to complement one another quite well," said Mike Zivkovic, manager of DEC marketing programs at Apple. "So, despite our competitive nature, there seems to be a common selling point among our large customers." — *By Jon Swartz*

DayStar add-in boards outrun NuBus

BY JONATHAN PERROW

FLOWERY BRANCH, Ga. — Frustrated by the NuBus speed limit? DayStar Digital has found a way to break it.

Similar in some respects to the Direct Bus in Apple's SE and SE/30, DayStar's Extended CPU Interface, or XCI, lets add-in boards for the Mac II/IIx communicate with the Mac's CPU over an independent hookup.

"We're trying to move the Mac in the direction of the NeXT machine," said Andrew Lewis, president of the Flowery Branch, Ga., company. Lewis said XCI came as a direct result of seeing the distributed processing power built into Steve Jobs' computer.

The XCI consists of an L-shaped board, with three direct slots and one for the Mac II/IIx's processor. The board plugs into the processor socket on the motherboard. As many as three specially designed XCI-compatible add-in boards, installed in the three NuBus slots closest to the CPU, can be plugged into the XCI backplane.

From the Mac's Control Panel, the user can choose to run the boards either over NuBus or over DayStar's interface, Lewis said.

XCI slots also are built into DayStar's $1,295 Extender II, a board that plugs into a Mac II's 68020 processor socket and gives the machine the processing power of a Mac IIx.

Bypassing NuBus lets XCI add-in boards run at the same 16-MHz clock speed as the Mac CPU, instead of the 10-MHz clock speed of the NuBus.

In March, DayStar plans to ship three XCI-compatible boards:

▸ Video XCI, a pair of eight-bit color video boards for 13- or 19-inch monitors. Lewis said the boards will be especially useful for graphics-intensive applications like animation or when scrolling complex images.

▸ HD XCI, a hard disk cache card that allows the Mac's processor to make faster transfers to and from SCSI drives.

▸ RAM XCI, a 16-Mbyte RAM card that works under the Mac OS as a high-speed RAM disk working at five to 10 times the speed of a mechanical drive, and under A/UX offers memory access more than six times faster than standard NuBus RAM boards, according to Lewis.

A version of the Video XCI for Apple's 13-inch RGB monitor will retail for $895, but no price has been set for the other XCI products.

Specifications for the XCI format are available to other developers for a one-time licensing fee of $100.

DayStar Digital is located at 5556 Atlanta Highway, Flowery Branch, Ga. 30542; (404) 967-2077. □

MEETING

Continued from Page 1

Macintosh daily sales totals since price reductions were announced on some models two weeks ago.

Rosy projections were not enough to keep shareholders from seeking damages from Apple for their stock losses. Marc W. Vraciu filed the suit on behalf of investors who purchased Apple common stock during the 10-day period between the original earnings announcement and the release of the revised projections on Jan. 27.

The suit should come as no surprise to Apple, according to Stanford law professor Ellen Bourgersen. "They had to know they were going to get sued when they made the announcement," she said.

"The SEC says you have to advise the public on any significant events. When you know something that bad, you have an obligation to notify the public," said G. Gervais Davis, an attorney with Schroeder, Davis and Orliss of Monterey, Calif.

The annual meeting, held at the Flint Center here, was attended by only about 500 shareholders, the smallest turnout in recent years, according to Apple spokeswoman Barbara Krause. Proxies representing more than 75 percent of the 123 million outstanding Apple shares had previously been filed with company management.

In other business, Apple's board of directors approved a cash dividend of 10 cents per share for the quarter ended Dec. 30, 1988. The shareholders re-elected the company's seven-member board and approved increases in Apple's stock option and employee stock purchase plans. □

Additional reporting by Emily Brower.

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SUPERCARD

Continued from Page 1

voilà, you have multiple-stack files.

The window level is where you see the most obvious differences between HyperCard and SuperCard. In HyperCard, cards are a uniform size; in SuperCard, the size can vary. Cards can be as small as a palette, the size of the standard 9-inch Mac screen or as large as 34 feet by 34 feet — and anything in between.

SuperCard also supports the various types of Macintosh windows. Scrolling windows allow you to move around the expanse of a card. Dialog boxes, which are technically a type of window, work more or less like dialog boxes in other programs, and floating palettes glide over all other SuperCard windows.

HyperCard only supports bit-mapped background pictures, which are on all the cards sharing the background, and card pictures, which are specific to a card. SuperCard supports both and adds a number of other neat features.

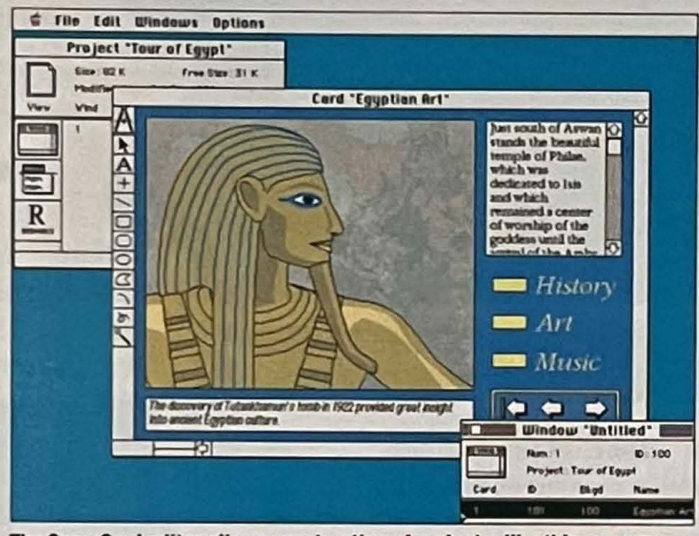
In SuperCard, graphics are objects just the way buttons and fields are objects in HyperCard. There are two kinds of graphic objects in SuperCard: bit-mapped and object-oriented. All objects are capable of receiving script messages and reacting to user input. You can also manipulate graphic objects under script control, so the possibilities for animation in SuperCard go far beyond those in HyperCard.

Perhaps most spectacularly, SuperCard supports color. Color graphics can be imported from a variety of sources or created within the program.

Tools. In HyperCard, there are two basic ways to distribute or create specialized tools. You can create stand-alone buttons or self-contained cards that can be copied from stack to stack. SuperCard's floating tool palettes give you another option.

Palettes are special "windoids" that float on top of other windows, just like HyperCard's tool palette. You can open palettes that reside in another stack and use them with the current stack. (You can do the same thing with menus.) This feature opens the door to the development of modular tools that can be re-used in a variety of projects. A number of these tool palettes will be shipped with SuperCard, and they perform a wide variety of functions, from aligning and moving objects to assigning line size to graphics.

Experienced scripters might be wondering how well all this is integrated into HyperTalk. The answer is that it's done quite well. HyperTalk has been extended sensibly with new messages where needed. For example, "itemSelect" is sent to a menu item when you release the mouse on it. It will take experienced HyperTalkers only a short time to shift gears.



The SuperCard editor allows construction of projects, like this museum tour, which can then be saved as double-clickable applications.

Perhaps the biggest adjustment HyperCard users will have to make when switching to SuperCard is the difference between the unified environment in HyperCard and the separate authoring and running environments of SuperCard. SuperEdit is the program you use to create SuperCard projects, while SuperCard itself is essentially a script interpreter shell. This arrangement takes some getting used to. However, once you realize that you can actually create a lot of objects and use a lot of tools inside SuperCard, this isn't so troublesome. Also, since the SuperCard user interface is completely programmable, developers can quickly create their own libraries of tools.

A new deal. SuperCard won't make much of an impression on the Mac world if there isn't a good way to distribute projects. If you could give your SuperCard files only to other SuperCard owners, you might not have much of a market.

Silicon Beach has cleverly and generously solved this problem. SuperCard can create stand-alone applications. When you build an application with SuperCard, the script interpreter is merged with your project. This adds about 250 Kbytes, but it means that you can give your applications to anyone. And Silicon Beach asks no royalties for these products. You can assign your own file creator to your application, and users may not even know SuperCard created it.

It's important to note, though, that SuperCard performs no compilation when it builds an application. This means that you don't gain any speed by building an application out of a project, just the ability to distribute it freely.

Conclusions. Silicon Beach is taking a big chance with SuperCard, and some questions linger. The specter of HyperCard 2.0 will haunt SuperCard until that product appears, possibly sometime this year. Further, the conversion from HyperCard to SuperCard is one-way; you can convert HyperCard stacks to SuperCard projects, but you can't go back. Some developers and users may wonder what will happen when HyperCard 2.0 appears. Will it give them everything they have in SuperCard (and perhaps more)? Will the work they put into developing in SuperCard be obviated with the release of HyperCard 2.0? Will Silicon Beach be able to keep up with Apple, and even stay one step ahead? Only time will tell.

For the present, though, SuperCard will offer power HyperCard users a new environment to explore and exploit. Other users will benefit from having sophisticated, powerful tools coming from a wider range of sources. We applaud Silicon Beach for both its courage in taking on the product, and for the excellent manner in which it is implementing it. □

MACINTOUCH/*RICK LEPAGE AND RIC FORD*

Don't cache a virus, be happy

■ BUGS & TIPS

Cache flows. Caching is one of the miracle techniques of modern computing. From IBM mainframes to VAX clusters to NeXT workstations to Apple IIs, it can provide cost-effective performance boosts in many guises. The basic idea is to have elements of your computer keep a copy of the busiest data nearby, grabbing it immediately when it is next referenced an instant later.

In hardware terms, that means storing the most often used data in dynamic RAM rather than on disks, which are terribly slow by comparison. In critical places like a Mac 68030 processor, even DRAM may be too slow, and a small amount of special, ultra-fast memory can be used as a cache to keep work flowing without fetching delays.

Apple and third-party vendors have taken advantage of various caching techniques since the introduction of the Mac. Most of them were essentially invisible to users, like the bits of memory in disk controllers, the on-chip caches of the Mac II and IIx and the caching (or buffering) techniques used by programmers. The only signs they left were performance improvements.

Apple's Control Panel cache switch is the one place in the Macintosh system where you get control over this mysterious mechanism. Debates about its use have swirled since 1984, and this seems like a good time to discuss it again, with the recent changes in Mac architectures and in the population of Macintosh owners.

No one argues persuasively that the Control Panel cache is ineffective. Turning it on, even at the minimum 32-Kbyte size, gets the lead out of your Mac. We can usually tell just by using a Mac for a few frustrating minutes if the cache is off. Further improvements are often noticeable with settings as high as 512 Kbytes. (Dedicating more RAM than that to a cache seems sinful at Apple's memory prices.) The cache occasionally saves a program from having to access your disk; it uses RAM as a temporary work space instead, saving a few seconds each time.

The only reason to turn off the cache is when memory is extraordinarily tight, running HyperCard or FullWrite on a 1-Mbyte machine, for instance. Memory for the Control Panel cache comes straight out of your total. A 1-Mbyte Mac with a 256-Kbyte cache turned on will have less than 768 Kbytes left for everything else. That's not enough for HyperCard or many other programs, but most can squeeze in beside a 32-Kbyte cache.

When Nevins Microsystems and Mainstay came out with cache utilities for the Mac years ago, Apple had not released a Control Panel cache. The issue at that time was whether a cache was "write-through" or not. Most caches *are* write-through, which means they always pass data on to the slower storage area when the data is changed. When a program is *reading* data, on the other hand, there's no need to go out and wait for slow storage; the cached data near at hand is guaranteed by the caching mechanism to be identical to the less accessible version.

Apple's cache is not strictly write-through, but it doesn't matter. Apple's high priests of the Mac system have decreed that all Mac applications must be written in a certain way, so that they periodically "flush" their data onto the disk where it can't be lost by a crash or power failure. If the programmer of an application fails to do this, the user will always be at risk of losing data, whether or not the Control Panel cache is turned on. Other hidden caches in the Mac system work the same way.

Since computer programmers routinely use cache-like memory "buffers" to temporarily hold data, there's no guarantee that your data is written to disk by an application when you make changes, regardless of any caching in the Mac system itself. When you change "Apple" to "NeXT" in MacWrite, the change doesn't occur on disk until later. A crash or power failure will wipe out your work if you haven't yet told the application to save it to disk.

When you're doing serious work, frequent saves are a must regardless of how your cache flows. And you might as well take advantage of the faster performance that Apple offers you in the Control Panel. It's just as safe as the rest of the Mac system.

The virus story, Chapter 13. Good news in the ongoing virus saga is the recent release of a number of anti-virus updates and new programs.

Jeff Shulman has published Version 2.0 of his shareware VirusDetective desk accessory. It is available from Delphi's on-line service, where Shulman is system operator of the Mac section, as well as from users groups and other on-line services like MacNET.

VirusDetective 2.0 is easier to use and adds checks for the most recent viruses, along with more powerful searching and logging functions. As before, you can add new tests on the fly for future viruses.

Apple has released a new version of its VirusRx utility, Version 1.4A2. It is also available from on-line services, and we recommend getting it promptly to check for the latest viruses and variants.

Rumors of problems with CE Software's Vaccine program appear to be unfounded. We talked with author Don Brown about the issue, and his recommendation was simply to turn off Vaccine when using special software installer programs to avoid potential problems. We feel this is a good practice as long as the installer program is run from a locked master disk known to be free from viruses.

Note that the 1.0.1 version of Vaccine is not a bug-fix release but simply polishes the built-in documentation of Version 1.0. □

We welcome your comments and questions on MacInTouch at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2500. (This is a new address and phone number.) Electronic mail: MCI Mail: RICFORD, MACWEEKBOSTON, RLEPAGE; Delphi/PAN: MACWEEKBOS; CompuServe: 75056,1225 (Ric Ford), 75016,350 (Rick LePage); GEnie: MACWEEKBOS; AppleLink (address to "MacInTouch" in Subject): X0702; MacNET: RICFORD, RICKLEPAGE; Internet: RICFORD@CUP.PORTAL.COM.

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Mac math market adds up

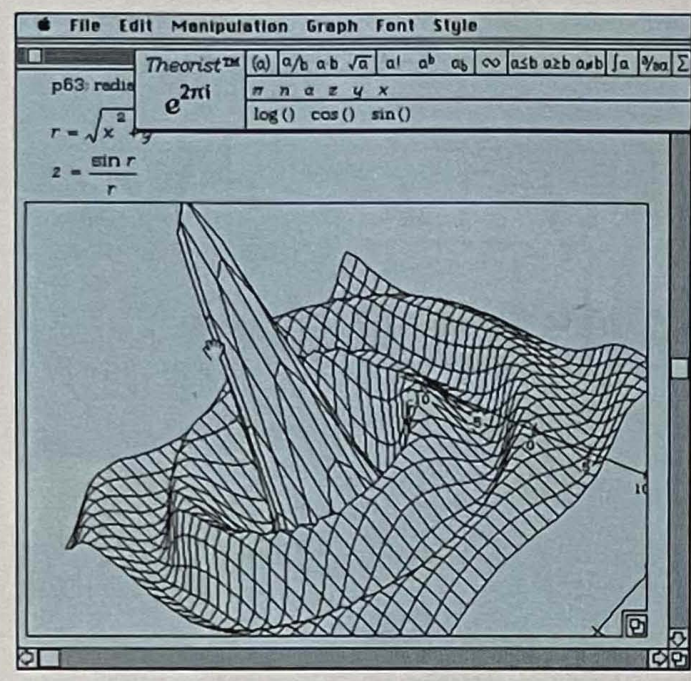
New challengers stress price, ease

BY JONATHAN PERROW

SAN FRANCISCO, Calif. — When Wolfram Research Inc. unveiled Mathematica, the pioneering program was hailed as "higher math for the rest of us." But in the aftermath of Wolfram's announcement, several other companies are seeking to carve their own niches in the Mac math market, competing with Mathematica on pricing and ease of use.

The array of recently announced products includes:

▸ Theorist, a calculus, algebra and color graphing program from Allan Bonadio Associates of San Francisco. The program, slated to ship this summer, lets users enter equations by clicking on a palette or typing in a formula, spreadsheet style. Two- or 3-D graphs redraw automatically as formulas change and can be rotated using the mouse.



Theorist from Allan Bonadio Associates will generate two-dimensional and 3-D graphs that automatically redraw as formulas change.

▸ PowerMath II, a $149 program available from Central Products Corp. of Houston. The program, a successor to one developed in 1984, solves linear and nonlinear equations and does differential and integral calculus as well as two-dimensional graphing.

▸ Formulator, a $149 equation-writing application for scientific and mathematical formulas and notations from ICOM Simulations of Wheeling, Ill. The program, currently available in Britain and due in this country next month, features automatic alignment, positioning and scaling, with brackets and operators that grow dynamically as a complex formula is constructed.

▸ MathGraph, a $149.95 mathematics graphing package scheduled for release this quarter from Paracomp Inc. of San Francisco. The program, which requires 512 Kbytes of RAM, lets users create two- and 3-D graphs in all standard coordinate systems, describe graphs by data sets, and define new functions and filters.

Paracomp is also shipping Milo, a symbolic equation processor and two-dimensional graphing program, for $249.95.

▸ Numerica, a numerical mathematics program from Paragon Concepts Inc. of Del Mar, Calif. Set to ship this summer, Numerica performs such operations as matrix analysis, Eigenvalue problems, fast Fourier transforms, and two- and 3-D plotting. Describing the program as offering performance never before available in a numerical package on a personal computer, Paragon said it can solve a system of 100 linear equations in less than 16 seconds.

Allan Bonadio Associates is at 814 Castro St., Suite 69, San Francisco, Calif. 94114; (415) 282-5864. Central Products Corp. is at 2211 Norfolk, Suite 518, Houston, Texas 77098; (713) 529-1080. ICOM Simulations Inc. is at 648 S. Wheeling Road, Wheeling Ill., 60090; (312) 520-4440. Paracomp Inc. is at 123 Townsend St., San Francisco, Calif. 94107; (415) 543-3848. Paragon Concepts Inc. is at 4954 Sun Valley Road, Del Mar, Calif. 92014 (619) 481-1477. □

ESP helps headhunters

BY HENRY NORR

SALEM, Mass. — After two years of development, a new Mac program for headhunters and personnel recruiters is now available. The multi-user program is called ESP, an acronym that stands for Executive Search and Placement but is also meant to suggest the "sixth sense" that characterizes the most successful recruiters, according to the developer. It includes a variety of forms for tracking client companies and candidates, storing résumés and billing for placements.

A context-sensitive on-line help system, speech-synthesized warnings and error messages, and a reference system that allows the user to enter codes into the database by pointing and clicking in a pop-up list make the headhunter's job easier.

ESP, the core engine of which was licensed from Blyth Software, developer of Omnis 3 Plus, costs $5,495 for a single-office site license. Other licensing and turnkey leasing arrangements are available from the developer, Kevin J. Doyle Computer Systems Consulting.

The developer, an Apple value-added reseller, is located at 27 Congress St., Salem, Mass. 01970; (508) 745-2679. □

STACKWEEK / *ERIC ALDERMAN AND STEVE MICHEL*

New Hyperpress products

■ PRODUCTS & NEWS

Dave Gewirtz's Hyperpress Publishing is one of the more committed stackware publishers. Since its first products, ScriptExpert and Icon Factory, Hyperpress has introduced quite a few interesting HyperCard-based products. At the recent Macworld Expo, the Foster City, Calif., company released several new products aimed at several types of users.

Silver Screen. This huge set of stacks (more than 3 Mbytes) serves two purposes. First, it's a publication medium for a large compendium of movie reviews, similar to those fat books of short reviews you see on the newsstands all over the place. As shipped, Silver Screen includes approximately 650 short reviews of movies. All movie listings are cross-referenced by category, director and stars.

Silver Screen's second function is as a catalog program for your library of tapes, allowing you to type in such things as recording speed and the tape meter readings for the beginning and end of the movie.

Silver Screen features sound and animation created by Robertson Smith. Buttons in the stack jump, pop and dance when you click them. An especially nice feature is the ability to turn off these effects on a Preferences card. After you've seen them a few times, you probably won't want to spend the time watching them again.

One thing we would like in this stack is a way to print labels for the tapes. But that's a minor nuisance in an otherwise handy stack.

HyperOne. This replacement for the Home stack was created by Steve Drazga, who will be familiar to our faithful readers as the author of the essential Developer Stack. HyperOne can be used as a stand-alone stack, but its greatest value will come when it is used as Home.

HyperOne's focus is on controlling the way you work with other stacks, applications or documents. It includes buttons that allow you to launch programs easily. It will either open specific documents you have pre-selected in those programs or present a standard dialog box for you to choose a file. Features that make HyperOne handy for dealing with other stacks include automatic compacting and backing up of stacks. HyperOne allows you to organize cards into "work groups" so that you keep all documents or applications that you are using together for quick reference.

Another useful feature of HyperOne is its Text Editor card, which lets you create, open and save text files conveniently from within HyperCard.

We have reservations about replacements for the Home stack in general; ours are heavily personalized already, and we suspect this is true for most heavy HyperCard users. This wouldn't be so much of an issue if HyperOne provided an automatic installation that copied resources and scripts from your existing Home stack. Nevertheless, if you are looking for a new Home, you should take a look at this stack.

Script Library. This stack performs the useful purpose of cataloging scripts for later use and reference. Routines that are copied into your Home stack make it easy to add any script on the Clipboard to the library or place any script in the library onto the Clipboard, and from there you can place the script into a button. This is handy. You'll often wonder where you last used that nifty script. If you start using Script Library, it will be easier to find.

We see groups working together using Script Library as a repository of standard routines they use often. By using the Notes field to annotate scripts, they can be searched as to purpose, and you can also specify which of your stacks use the script. Script Library is shipped with a selection of worthwhile, if not spectacular, scripts. It will be a welcome addition to the libraries of most heavy HyperCard users. We can't wait for the SuperCard version.

Finally, we want to note that Hyperpress has done a fine job of presenting all of these stacks. The screen designs are attractive; they even strike us as similar to the look of the NeXT computer software. We hope the company does well and continues to bring out fine new products.

Letter Learner. At the BMUG party during Macworld Expo, we were handed a disk containing "NeuralStack One: Letter Learner" by Robert Orenstein. This stack is billed as an "introduction to neural networks" by its author, and although we are not truly conversant with the theory of neural networks, this stack is neat.

Orenstein's stack presents a small box, in which you use the mouse to draw a letter. You use the box to draw and to teach the stack all the letters of the alphabet. Later, you can draw a letter and ask the stack to identify it.

This might seem to be a trivial application, and for itself it is. But Orenstein has put a lot of work into the stack and includes a good tutorial on how the stack works. It seems like magic. We applaud Orenstein for his work and look forward to seeing more stacks from him. — S.M.

■ REFERENCE

Hyperpress can be reached at P.O. Box 8243, Foster City, Calif. 94404; (415) 345-4620.

Robert Orenstein asks a very reasonable $10 shareware fee for Letter Learner. Send a self-addressed stamped envelope to him at P.O. Box 1381, Venice, Calif. 90294; (213) 392-6674 or contact your local users group for a copy of the stack. Be sure to send the shareware fee to him.

If you have questions, hate mail, comments or tips, contact us by electronic mail at: MCI: STACKWEEK; AppleLink: D1507 (Steve) or D1577 (Eric).

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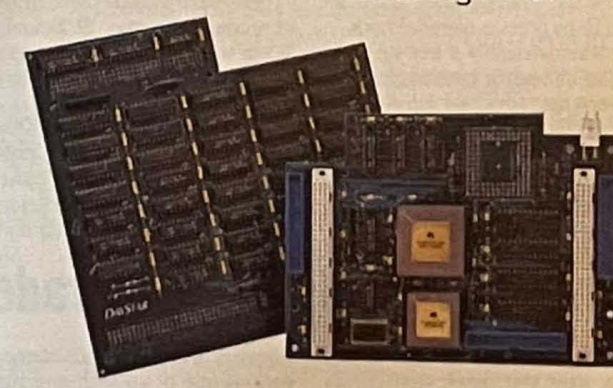

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ModaCAD dresses for success

Fashion design system upgraded

BY CONNIE GUGLIELMO

LOS ANGELES — From blue jeans to haute couture, ModaCAD Inc. continues to make its fashion statements with the Macintosh.

The Los Angeles-based developer last month unveiled major enhancements to its ModaCAD color fashion design system for the Mac II. Introduced in June 1988, ModaCAD is a high-end, five-module integrated package for automating the fashion design process (see MacWEEK, June 14, 1988).

The program's new capabilities include:

▸ ModaDRAPE, a texture mapping system added to the Design module that lets designers automatically drape fabric over an on-screen model to simulate how a finished garment will look. Users can select contours, shading and the weight of the fabric. The fabric can be moved, rotated or scaled easily until the size, direction and position of the garment meets the designer's specifications.

▸ A CAM interface for operating cutting, weaving, embroidery and automatic knitting machines.

▸ Enhancements to the Textile Design module, which allows on-screen weaving of colors and patterns, to support dobby and jacquard patterns, the most widely used designs in traditional weaving. The system automatically checks to make sure the design does not exceed the capabilities of the loom that will be used to create the fabric.

Using ModaCAD's new ModaDRAPE capability (above), designers select contours, shading and weight of a fabric and drape it over a model to simulate the look of a finished garment. ModaCAD users can also move, rotate, scale and change fabric designs within the program (right).

According to Joyce Freedman, president of ModaCAD Inc., the system, and in particular the new ModaDRAPE capability, dramatically reduce the cost of sample production, on which some design and manufacturing houses now spend up to $150,000 per day.

The company sells turnkey systems, including a Mac II, monitor, scanner and software, at prices averaging $30,000, depending on configuration. Individual software modules can be purchased separately for between $5,000 and $10,000.

ModaCAD Inc. is located at 1954 Cotner Ave., Los Angeles, Calif. 90025; (213) 312-6632. □

Shiva, Avatar cooperate on mainframe connectivity

BY JON SWARTZ

SAN FRANCISCO — Shiva Corp. and Avatar Corp. have announced an agreement to co-market Shiva's NetSerial and Avatar's MacMainFrame DX.

The two Massachusetts companies said they will promote a "joint solution" that allows networked Macs to share Avatar's Mac-to-IBM mainframe connectivity hardware.

Avatar's $1,195 MacMainFrame DX is an external hardware device that plugs into a Mac's serial port and provides 3270 emulation as well as the ability to transfer files between a Mac and an IBM mainframe through local or remote connections. Shiva's NetSerial is a $399 high-speed interface between AppleTalk and such RS-232 devices as printers and modems.

Combining the two devices extends the MacMainFrame DX's terminal emulation and file transfer capabilities to all users on an AppleTalk network.

The MacMainFrame/NetSerial solution was discovered by Dagmar Poruks, MIS manager at Clarkson Gordon of Toronto, who found that the Canadian accounting company could access its IBM mainframe, download files monthly from the mainframe's database and then reprogram the files into HyperCard stacks written by Gordon for individual account interaction, calculations and overwritten notations.

"With the HyperCard application, we have not only achieved a very innovative solution but also a significant savings in clerical time," Poruks said. "Our pilot project showed us that we can get the job done five times faster than before."

Shiva Corp. is located at 155 Second St., Cambridge, Mass. 02141; (617) 864-8500. Avatar Corp. is located at 99 South St., Hopkinton, Mass. 01748; (508) 435-6872. □

Cornerstone SinglePage challenges Radius

BY JOHN BATTELLE

SAN JOSE, Calif. — With a nod of both deference and defiance to market leader Radius Inc., Cornerstone Technology has announced the SinglePage XL, a single-page display system for the Mac SE and II that is compatible with Radius' Full Page Display monitor and card.

Cornerstone is making no excuses about targeting the SinglePage XL directly at the Full Page Display. Both companies use the same 15-inch tube from Zenith, giving the two monitors an identical 640-by-864-pixel resolution, 77-dpi density and 69-Hz refresh rate. The SinglePage XL, which is slated for introduction in March, can be run from a Radius FPD card, while a Radius FPD monitor can be used with a SinglePage XL card.

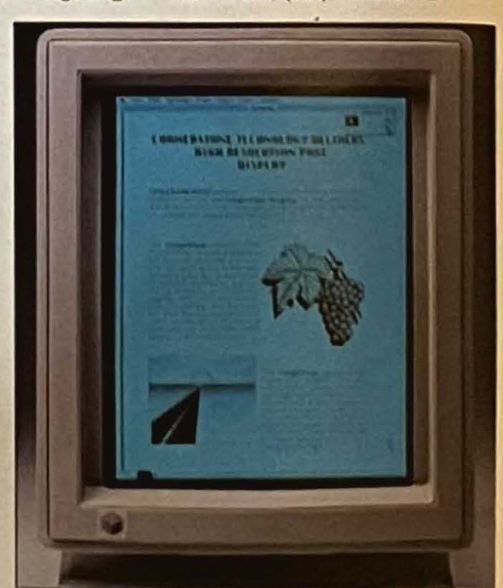
Cornerstone's SinglePage XL display will cost $899, compared with the $1,095 list price of the Radius FPD. Cornerstone's display card will cost $399 for the SE model and $499 for the Mac II model, whereas Radius charges $495 for its SE card and $595 for the Mac II version.

"Radius is generally considered the standard by which to compare all others in the Macintosh market," said Carolyn Carter, marketing communications manager for Cornerstone. "We're hoping to offer an affordable and flexible alternative for the reseller."

The SinglePage XL display will support Radius software when running from a Radius FPD card. Cornerstone's card will support its own array of software features, including pop-up menus, support for two-screen display, an enlarged cursor and menu bar, and a screen magnification option for the SE. These features will run on a Radius FPD monitor if it is attached to a SinglePage XL card.

"You have basically the same hardware for hundreds less," Carter said. "If Radius is considered No. 1, we'd like to be No. 2."

Cornerstone Technology is located at 1883 Ringwood Ave., San Jose, Calif. 95131; (408) 279-1600. □



Cornerstone's SinglePage XL offers 640-by-864-pixel resolution and a 69-Hz screen refresh rate.

3Com beefs up 3+ networking software

BY JON SWARTZ

SAN FRANCISCO — 3Com Corp. CEO William Krause resembled a general, flanked by company lieutenants and strategic allies at a Macworld Expo press conference here.

It was ostensibly a news conference to announce communications software upgrades and future product directions, but the star-studded cast of industry executives on hand to vouch for 3Com networks, including Yogen Dalal, Claris vice president of product development, and Guy Kawasaki, president of ACIUS Inc., turned the event into a testimonial.

But perhaps that was the purpose of the conference, according to one less-than-impressed analyst. "There wasn't much there in terms of product," he said. "It looked like 3Com was trying to impress us with its importance in the Mac connectivity field."

What Krause and Alan Kessler, 3Com director of software product marketing, did announce, however, should satisfy 3Com users, including the Santa Clara, Calif., company's illustrious expo panel.

▸ 3Com will offer AppleTalk Filing Protocol-compatible file and print services by the end of the year for Macs running under its 3+Open LAN Manager network operating system. 3Com signed an agreement with Pacer Software Inc. of La Jolla, Calif., to co-develop the software services. Krause, however, discouraged talk of any acquisition of Pacer.

▸ 3Com has enhanced its 3+ for Macintosh network software, allowing Macs to communicate with PC-based network servers through LocalTalk networks. The enhanced 3+ for Macintosh is priced at $495 and scheduled to ship in April.

▸ 3+Mail for Macintosh has been improved so that Mac users can identify and transmit electronic mail to users on 3+ networks without requiring the location of servers.

The new 3+Mail for Macintosh is scheduled to ship in June. It costs $595 for up to five users and $1,190 for unlimited use.

3Com recently began shipping EtherLink/SE, a $595 Ethernet adapter card for the Mac SE.

3Com is located at 3165 Kifer Road, Santa Clara, Calif. 95052; (408) 562-6400. □

WordPerfect ships free upgrade

OREM, Utah — WordPerfect Corp. said last week that it has begun shipping a maintenance release of its Mac word processor free of charge to registered owners this week.

Version 1.0.2 of WordPerfect "doesn't have a lot of changes the user will see," according to Roger Bell, marketing manager for the company, but he said the new version of the $395 program includes the following improvements:

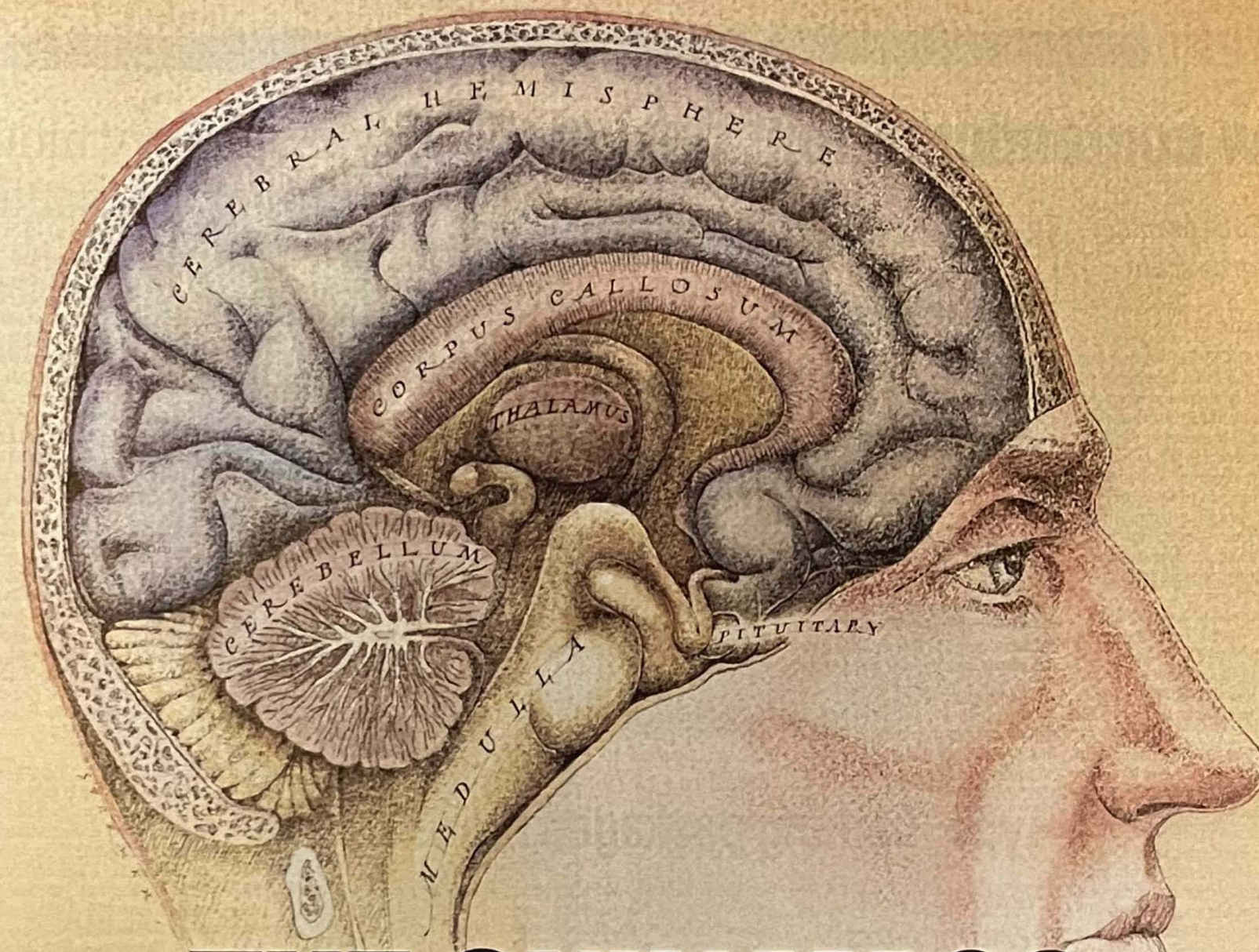
▸ A redesigned tab function that supports tabs at intervals of one seventy-second of an inch and makes the Mac version consistent with Version 5.0 of the company's MS-DOS version.

▸ Better format conversion of Microsoft Word and PC WordPerfect files.

▸ Elimination of screen flicker.

"In general," Bell said, "we've cleaned the product up some more."

WordPerfect Corp. is located at 1555 N. Technology Way, Orem, Utah 84057; (801) 225-5000. □



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New contender in font design

Fred Font provides hints, gray scale

BY CLIFF LEHMAN

SAN FRANCISCO — A new font design package that may open up Adobe PostScript laser printers for use with font libraries other than Adobe's made its debut at the Macworld Expo here this past month.

The new program, called Fred Font Machine, will compete directly with Fontographer from Altsys Corp. of Plano, Texas. But Fred, according to its developers, adds a host of features missing from previous Mac font tools.

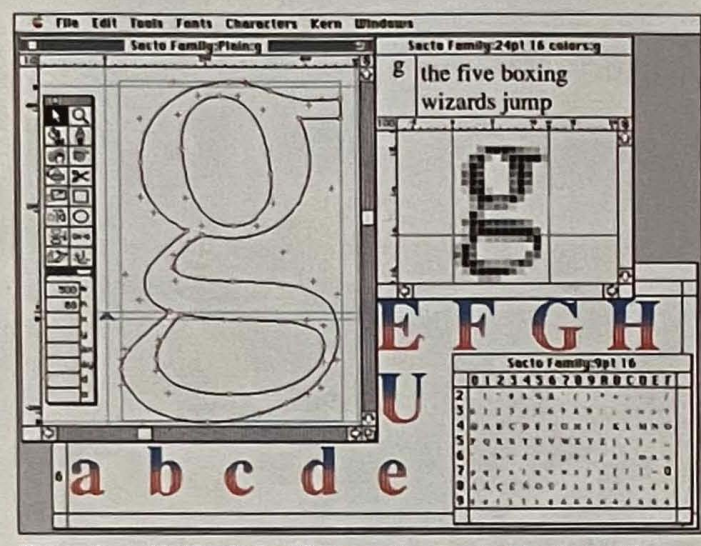
The program, now scheduled for release in March, is being developed by AB Vista Co. of Fair Oaks, Calif. Pricing has not been finalized but will be less than $500, according to Larry Applegate, a partner in AB Vista.

One of Fred's most important features, Applegate said, is its ability to generate hints that allow high-quality printing on low-resolution (300-dpi) laser printers equipped with Adobe PostScript, as well as on PostScript-clone devices. This capability would allow users to add hints to fonts from libraries such as Bitstream Inc.'s MacFontware and to original fonts designed with Fred Font Machine.

"The desktop publishing industry is increasing pressure on the type industry for open font formats among different typeface vendors," Applegate said.

"Fred, with its open font format together with future developments in the industry, will overcome Adobe's present lock on the low-resolution font market."

Other features of Fred Font give font designers the ability to draw original PostScript typefaces; generate and edit black-and-white, gray-scale and color bit-mapped fonts; use gray shading to smooth the appearance of on-screen fonts (anti-aliasing); autotrace scanned images; edit kerning pairs, character widths and sidebearings in context; import and edit existing Mac font families; export character outlines and composed text in Illustrator 88, Encapsulated PostScript and PICT formats.



To be released in March, Fred Font coordinates a font family's outlines, bit maps, kerning tables and font metric information.

Fred also coordinates a font family's outlines, bit maps, kerning tables and font metric information. It has a multilevel undo/redo function at a user-selectable number of levels.

AB Vista Co. can be reached at P.O Box 369, Fair Oaks, Calif. 95628. The company said it cannot yet respond to telephone inquiries. □

Old type foundry moves to technological frontier

BY CLIFF LEHMAN

SAN FRANCISCO — America's oldest type foundry — one with 20,000 typefaces in its inventory — entered the modern typesetting age last month in grand fashion.

Kingsley/ATF Type Corp. of Elizabeth, N.J., announced at Macworld Expo three Mac software products.

▸ The first new product, ATF ProType, is a line of digital PostScript typefaces that will be sold in packages of up to six fonts. The first package, due in March at $195, contains a decorative border and three display typefaces: Bernhard Fashion, Thompson Quillscript and Wedding Text.

ATF started with a package of display faces because the company saw a shortage of good decorative type on the market, said Peter Alfke, applications programer.

The company has not set a production schedule for future releases.

The packages will feature ATF's hinting technology, designed to offer output quality good enough to compete with Adobe, at small point sizes on low-resolution printers. The hints allow ATF fonts to be printed at high quality on all Adobe PostScript and PostScript clone machines, Alfke said.

Every ProType package will include two utility programs to generate screen fonts and modify kerning.

▸ The company's second product, ATF Type Foundry, allows users to draw characters freehand and to digitize outlines of scanned type artwork for printer and screen fonts.

Type Foundry is the same program ATF uses for its in-house digitizing work "with a few proprietary things removed," Alfke said.

"It will be a very polished product because we use it in-house," Alfke said. "It will be optimized for the way an artist actually works with a typeface."

Priced at $449, Type Foundry is scheduled to ship in June.

▸ The final program, a combination word processor and page-layout program called ATF Typographer, is scheduled for a September release. Pricing has not yet been determined, but ATF Typographer features will include: hanging punctuation, advanced line break and hyphenation algorithms, and the ability to make multiple style changes with a single keystroke.

A company representative acknowledged that Kingsley/ATF was not previously known as a technological pioneer. Founded in 1892, the company once owned the presses that printed Ben Franklin's "Poor Richard's Almanack."

Kingsley/ATF failed to move to automatically set hot metal type at the turn of the century and ignored more recent technical advances. That began to change last fall, however, when the company hired Henry Schneiker, a 15-year veteran of electronic publishing, as vice president of its software division.

Kingsley/ATF Type Corp.'s software division is located at 2559-2 E. Broadway, Tucson, Ariz. 85716; (602) 325-5884; (800) 289-8973. □

Type, kerning packages make debut

New tools modify kerning pairs

BY CLIFF LEHMAN

SAN FRANCISCO — News and announcements in the world of typefaces proliferated faster than sore feet at a computer show in the past month. Among the announcements:

▸ GCC Technologies of Waltham, Mass., announced two new font packages for its PLP and WriteMove QuickDraw-driven printers, as well as a font converter that allows you to use Bitstream's MacFontware outline type library.

One of the two new typeface packages is a set of headline fonts containing Headline Bodoni, Broadway, Cloister Black, Brush Script, Coronet and Goudy Old Style Extra Bold. The other package contains two text faces, ITC Garamond and ITC Galliard. Both packages will ship in the second quarter and are priced at $299.

The WriteMove and PLP printers come with six font families, and seven other font families are also available through GCC. All GCC fonts are licensed from Bitstream.

The converter utility will allow users to convert the MacFontware library, which currently consists of 10 packages of display text typefaces.

GCC Technologies Inc. is located at 580 Winter St., Waltham, Mass. 02154; (617) 890-0880.

▸ ICOM Simulations Inc. of Wheeling, Ill., announced a type kerning program that allows users to adjust existing kerning pairs in any laser font. Adobe font metrics files can be optionally updated to the new kern settings.

The program can also check resource ID numbers and allows the user to reassign numbers if there are conflicts.

ICOM Simulations Inc. is located at 648 S. Wheeling Road, Wheeling, Ill. 60090; (312) 520-4440.

▸ A Canadian developer last month introduced a library of kern tables corresponding to the Adobe font library. Kerningware of Toronto began selling its new Kerningware series, offering packages of kern tables for Adobe font packages A through 5 at the Macworld Expo for $250.

Tables for packages A through 39 are available for $850. Tables for packages A through 69 will be available in March for $1,050.

All the packages include software that allows users to change the kern values in Kerningware's kern tables as well as those of other manufacturers.

Kerningware is located at 61 Sorlyn Ave., Toronto, Ontario, Canada M6L 1H7; (416) 247-7976.

▸ Altsys Corp. of Plano, Texas, last month shipped its newest type-related product, KeyMaster, a $99 program that allows users to turn their artwork into PostScript fonts. The program can import images in Encapsulated PostScript (EPS) format from Aldus FreeHand and Adobe Illustrator and in PICT format from MacDraw II, SuperPaint and other object-oriented Mac drawing programs.

Each KeyMaster font supports up to 16 graphic characters.

Altsys Corp. is located at 720 Ave. F, Suite 109, Plano, Texas 75074; (214) 424-4888.

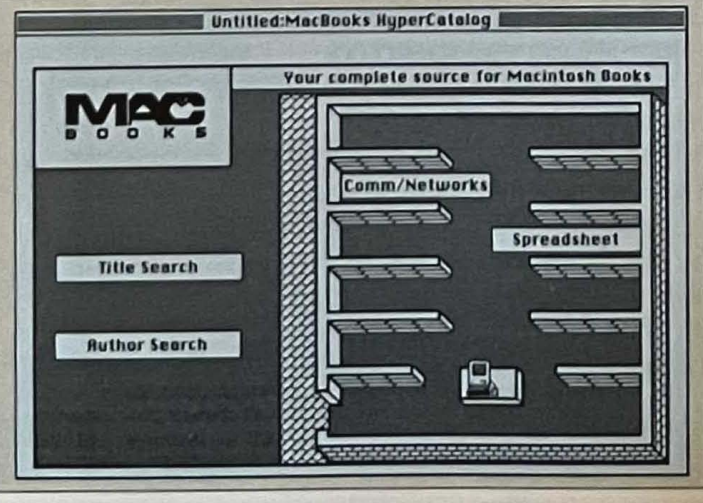
▸ Treacyfaces Inc., a new type foundry in Ardmore, Pa., announced its first entries in the Mac type market. Its first two packages, TF Habitat and TF Forever, will ship this month for $170 each. The packages contain Roman, italic, bold and bold italic versions of the faces. The faces, which are scalable to any size, can be used on PostScript laser printers and imagesetters.

Treacyfaces Inc. is located at 111 Sibley Ave., Second Floor, Ardmore, Pa. 19003; (215) 896-0773. □

Books, books, books

PALO ALTO, Calif. — The number of Macintosh book titles increased by 200 percent during 1988, according to a Palo Alto, Calif., distributor called MacBooks. The mail-order company stocks hundreds of titles at discount prices. Orders can be placed by phone at (415) 494-2154; fax at (415) 494-0166; MCI Mail addressed to 353-1435; or modem at (415) 969-9337.

Title listings and order forms are available in hard copy, online from the company's bulletin board service or in the HyperCatalog stack shown at right.



Pro Plus enters Mac accounting

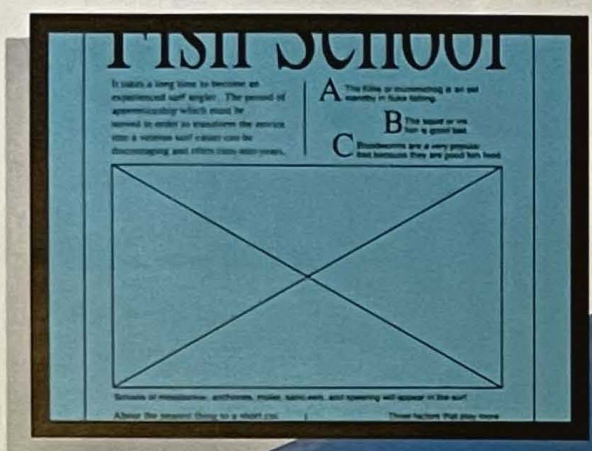
MESA, Ariz. — Pro Plus Software Inc., developer of Wall Street Investor, will enter the Mac accounting market in March with the release of Pro Plus Accounting, a $995 integrated package.

Pro Plus Accounting includes four modules, general ledger, accounts receivable, accounts payable and inventory. A fifth module, payroll, will be available in August, said a company spokesman.

The modules will also be sold separately for $350 each.

Pro Plus Software Inc. is located at 2150 E. Brown Road, Mesa, Ariz. 85203; (602) 461-3296. □

Three Steps to Color Electronic Publishing.



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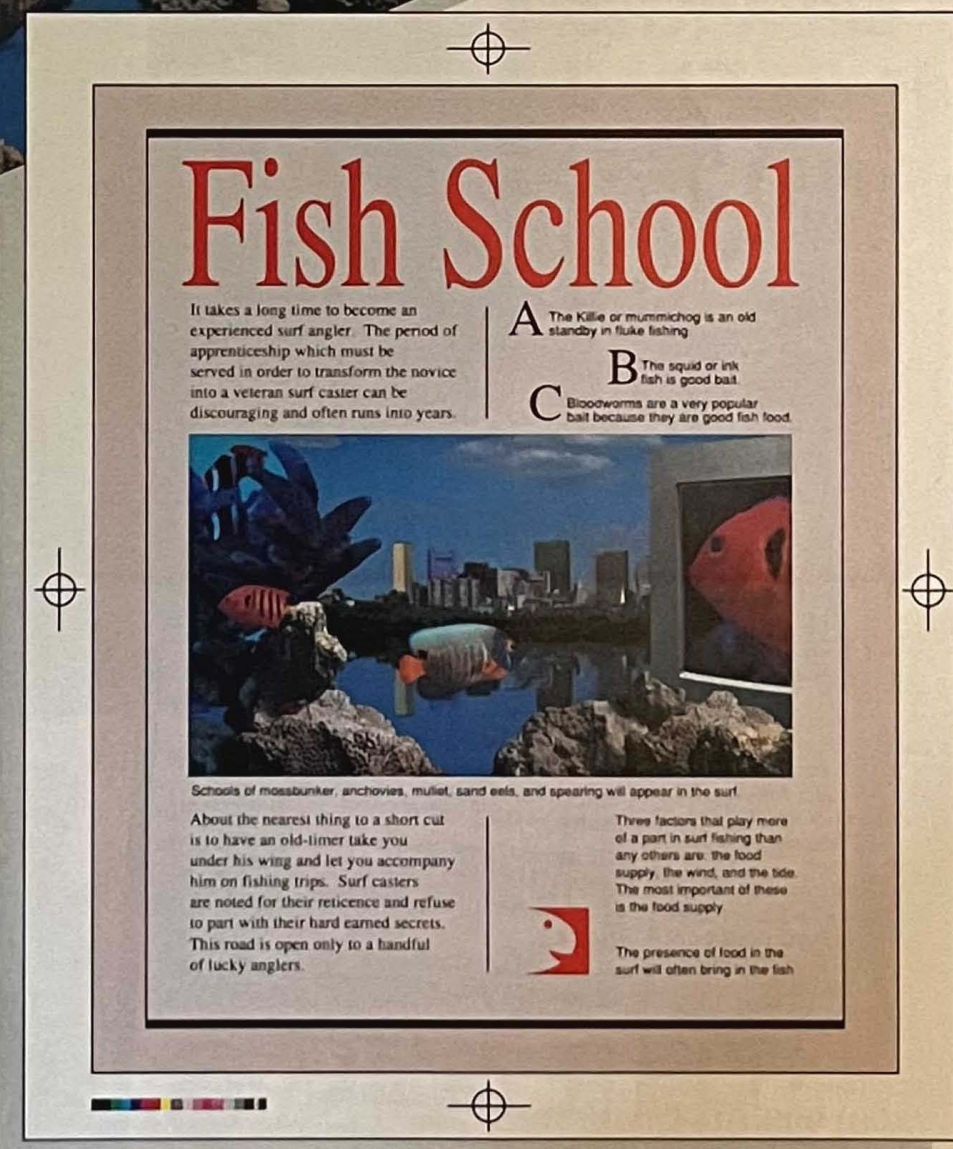

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PhotoMac.

Not just pretty pictures

New Horizons unveils WordMaker low-end word processor at Macworld Expo

SAN FRANCISCO — An Amiga developer showed its new low-end word processor for the Mac here at the Macworld Expo last month.

WordMaker from New Horizons Software Inc. of Austin, Texas, will cost $125 and ship in the second quarter.

Features of the new program include:

- Color display of text and graphics on a Mac II and color printing from all Macs.
- Full WYSIWYG.
- Pictures alongside text blocks.
- 95,000-word interactive spelling checker.
- Mail merge.

WordMaker will allow up to eight documents to be opened simultaneously. It can load and save files in WordMaker, MacWrite and text format, as well as its own document and "stationery" formats.

New Horizons Software Inc. can be reached at P.O. Box 43167, Austin, Texas 78745; (512) 328-6650. □

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An INIT for every System, a utility for every desktop

New tools aim to meet every need

BY HENRY NORR

SAN FRANCISCO — In case you thought every possible Mac utility had already been published at least once, last month's Macworld Expo offered fresh evidence that Mac software developers continue to find new needs to meet.

POWERmenus. Magic Software grabbed what even the most jaded utility freaks called an industry record for most functions packed into a single pop-up menu. Once Magic's POWERmenus INIT and its associated POWERgadgets folder are placed in the System folder, a triple-click or a user-configurable key combination brings up a hierarchical pop-up menu at the cursor location.

On the pop-up list are all menu items from the currently active application, a configurable POWERda submenu from which frequently used desk accessories can be called, a POWERcontrol submenu that gives speedy access to selected Control Panel devices (cdevs), a time and date listing, a submenu of all open windows, a phone dialer, a notepad, and an alarm system complete with reminder messages and a snooze feature.

POWERmenus does it all in a total of just 89 Kbytes, and it is available for $79.95 from Magic Software Inc., 1602 Cascio Drive, Bellevue, Neb. 68005; (402) 291-0670; (800) 342-6243.

ClickPaste. Mainstay began shipping ClickPaste, a $99.95 desk accessory/INIT combination the publisher describes as an "instant hierarchical scrapbook."

Users call up ClickPaste with a configurable keyboard/mouse combination, then paste, name and save most anything the Mac can generate — from simple text and graphic objects to PageMaker layouts and HyperCard buttons — into a special Scrap folder at the root level of the disk hierarchy.

When the object is needed again later in any application, ClickPaste pops up a hierarchical menu through which each named object can be quickly retrieved. Objects copied to ClickPaste retain whatever attributes the original application puts on the Clipboard: HyperCard buttons, for example, keep their scripts when pasted to and from ClickPaste.

Mainstay is located at 5311-B Derry Ave., Agoura Hills, Calif. 91301; (818) 991-6540.

SmartScrap & The Clipper 2.0. In other scrapbook news, Solutions International was showing SmartScrap & The Clipper 2.0, the latest edition of its $89.95 scrapbook- and clipboard-enhancement package. The new release adds a variety of improvements to the Smart-Scrap DA, including full color support, a Lasso selection tool (which works even with color images), printing of whole scrapbooks or selected pages directly from SmartScrap, the ability to name individual scrapbook pages and a nudge feature that lets users move a selection marquee a pixel at a time.

The package now also includes ScrapMaker, a utility that automatically builds scrapbooks from Paint and PICT files, and several scrapbooks containing samples from commercial clip art collections.

Upgrades are free to those who bought the earlier version anytime after last August's Macworld Expo, and $20 for other registered owners.

Solutions International is located at 30 Commerce St., Williston, Vt. 05495; (802) 658-5506.

StickyBusiness. Users who print lots of labels may want to get into StickyBusiness from Williams & Macias Inc. The new $179.95 utility provides a range of tools for designing labels, including serial numbers, graphics, colors, rotation, patterns, blends, and standard line drawing and text options.

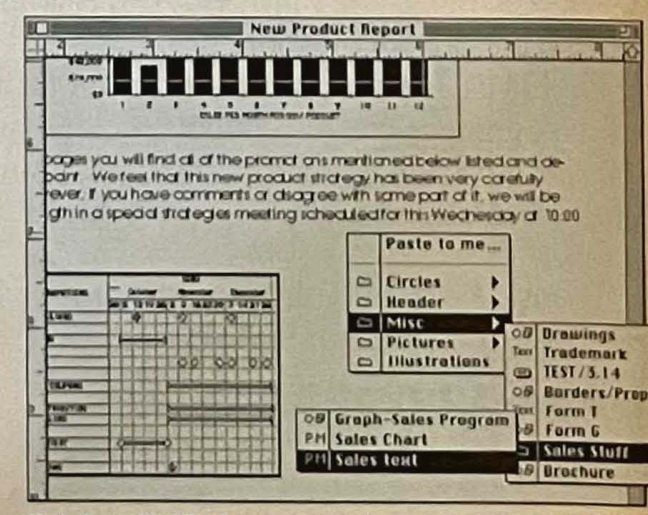
The program reads text, SYLK, Basic and Merge files from virtually any database or word processing application. A library of pre-formatted templates for labels, cards and tags from leading office-supply vendors is included.

Williams & Macias Inc. is located at S. 3707 Godfrey Blvd., Spokane, Wash. 99204; (509) 458-6312; (800) 752-4400.

InfoGuard. Advanced Gravis, a company previously known mainly for its joysticks and accessories, has entered the software market with a new encryption package called InfoGuard.

The $99.95 program offers two options for encrypting files and folders: DES, a technique based on the National Bureau of Standards specification, and Alcrypt, a proprietary algorithm the company says can encrypt a 300-Kbyte document in 20 seconds on a Mac SE. An "alias" feature makes it possible for other users to send you an encrypted document without knowing your password, while a log function records errors and attempts

See UTILITIES, Page 22



Mainstay's ClickPaste provides an "instant hierarchical scrapbook." Users can call up objects stored in a special folder from a pop-up menu, then paste them directly into documents.

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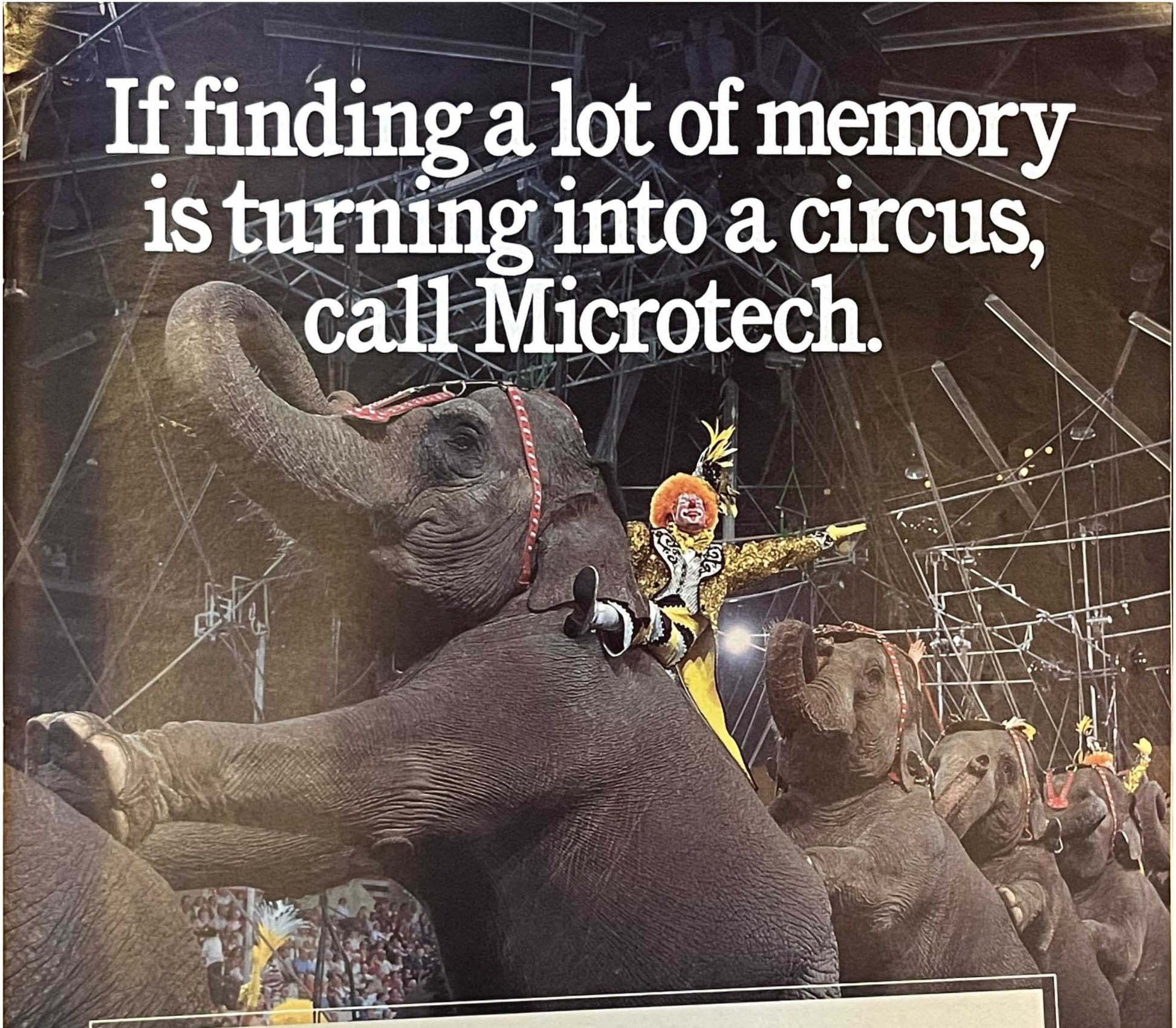

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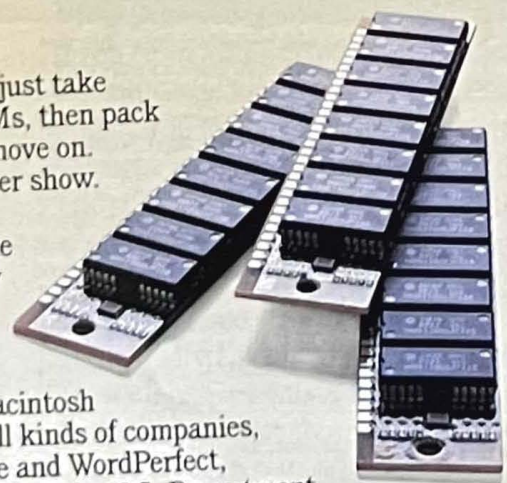

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Avatar announces card, software to link SE/30s to 3270 mainframe networks

SAN FRANCISCO — Avatar Corp. shared the spotlight with Apple at last month's introduction of the Mac SE/30 by announcing MacMainFrame SE/30, an internal card and communications software that links the SE/30 to IBM 3270 mainframe networks.

The $995 board, sixth in Avatar's MacMainFrame series, is scheduled to ship in the second quarter.

An Avatar spokeswoman said MacMainFrame SE/30 allows full IBM 3278/79 terminal emulation and file transfer under IBM's CICS, TSO and CMS operating environments.

According to Joyce Enos, MacMainFrame SE/30 product manager, the board's features include easy access to and manipulation of mainframe information, keyboard mapping, pull-down menus, and copy and paste support.

Avatar is located at 99 South St., Hopkinton, Mass. 01748; (508) 435-6872. □

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MacWk. 2/7/89

Pro Visions, Glanmire offer expandable memory options

BY HENRY NORR

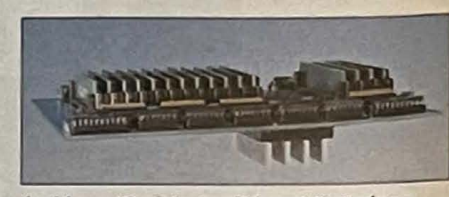
CORK, Ireland — From Cork to California, memory vendors are racing to market with innovative devices providing new RAM configuration options for Macintosh II and IIx owners.

▶ At Apple's A/UX display at last month's Macworld Expo, Pro Visions Industries demonstrated McSIMM, an expandable memory module that lets users put up to 4 Mbytes of memory in each SIMM slot. The large-size SIMMs are available in 4-, 8-, 16- or 32-Mbyte configurations, with retail prices beginning at $2,200. Pro Visions, a 3-year-old manufacturer of Mac enhancement products, offers a three-year unconditional warranty and shipment within 48 hours of receipt of orders.

The San Diego developer also announced McAdapt, a hardware-software solution that will allow any Mac II to address as much as 128 Kbytes of RAM, just like the newer Mac IIx, for A/UX and future Apple operating systems. Including a 16-Mbyte McSIMM, the product is available now at $8,800.

▶ At the same time, an Irish company headed by a former Apple engineer introduced a different memory-expansion solution in the form of a circuit board called Jackie. The board, which plugs into four standard SIMM slots in a Mac II or IIx, has 16 slots of its own, allowing users to boost total memory to as much as 20 Mbytes with 1-Mbyte SIMMs or 5 Mbytes with 256-Kbyte SIMMs.

Jackie's developer, Glanmire Electronics, has been marketing the boards in Europe since December and will begin shipments through its U.S. office this month. With no memory installed, Jackie costs $999; 1-Mbyte memory kits using 256-Kbyte SIMMs are priced at $249, and 4-Mbyte kits with 1-Mbyte SIMMs are $1,200. Glanmire offers a 12-month warranty.



Jackie, a 16-slot circuit board that plugs into four standard SIMM slots, lets users boost memory to 20 Mbytes with 1-Mbyte SIMMs or 5 Mbytes with 256-Kbyte SIMMs.

Pro Visions Industries is located at 6696 Mesa Ridge Road, San Diego, Calif. 92121; (619) 558-4707.

For information about Glanmire's Jackie board, contact Jim Brennan, Aran Enterprises Inc., 1612 Worcester Road, Suite 603A, Framingham, Mass. 01701; (508) 879-1279. □

Major upgrade to DAtabase to ship

MEMPHIS, Tenn. — DAtabase is scarcely 2 months old, but Preferred Publishers already has given the feature-packed desk accessory database program a major upgrade.

Among dozens of enhancements in Version 1.10, which is due to ship this week, are a view-by-list option, sorting on as many as three keys, full support for Encapsulated PostScript images in picture fields, scroll bars in text fields, a 30-fold increase in sorting speed, a 50-fold reduction in search times and a host of other speedups and new shortcuts.

DAtabase is priced at $129.95. Upgrades are free to owners who return their Version 1.0 master disk to Preferred Publishers at 5100 Poplar Ave., Suite 706, Memphis, Tenn. 38137; (901) 683-3383; (800) 446-6393. □

UTILITIES

Continued from Page 20

to open encrypted files without the necessary password.

As a virus-protection feature InfoGuard checks itself and encrypted documents each time it is run and gives a warning of any change in size, which could signify an infection.

The package also includes a dummy application called Decoy, which does nothing but check its size; the publisher recommends making it the start-up application, so that any infection can be detected at the beginning of a work session. According to some security experts, however, Decoy is ineffective against viruses, such as Scores, that are programmed to infect applications only after they have been open several minutes.

Advanced Gravis Computer Technology Ltd. is located at 7033 Antrim Ave., Burnaby, British Columbia, Canada V5J 4M5; (604) 434-7274; (800) 663-8558 in the United States.

Smart Alarms and Multi-User Appointment Diary. At Apple Australia's expo booth, JAM Software of Summer Hill, Australia, and its American arm, JAM Technologies, looked for users of Smart Alarms and Multi-User Appointment Diaries, two JAM-developed DAs originally marketed in this country by Imagine Software. JAM recently upgraded the DAs, making Smart Alarms compatible with System 6.0.2 and giving it new snooze and print options. The network diary software now has Undo support and improved network performance and compatibility, among other enhancements.

JAM's agreement with Imagine expired last year, leaving the developer without access to registration lists and thus without a way to contact owners of the programs. Users who wish to upgrade Smart Alarms should send their original disks and $12 plus tax to JAM Technologies, while users of the Multi-User Appointment Diaries should send original disks and $12 plus $10 per node plus tax. JAM Technologies is located at 685 Market St., Suite 860, San Francisco, Calif. 94105; (415) 442-0795.

PICTWriter. A new entry in the print-to-disk utility race arrived from north of the border. Sun Valley Software Inc. of Winnipeg, Manitoba, presented PICTWriter, a $74.95 Chooser-selectable device that allows users to "print" documents from any application as color or monochrome PICT2-format files. The program saves each page of the document as a separate PICT file, at any size selected in the application's Page Setup dialog.

Colour PICT DA, a $54.95 desk accessory from the same Canadian developer, lets users view PICT documents at any time. For documents with color bit maps, the program lets the user view the color palette and save it for use in any of several color paint programs.

Sun Valley Software Inc. is located at 198 Sun Valley Drive, Winnipeg, Manitoba, Canada R2G 2W7; (204) 663-8004. □

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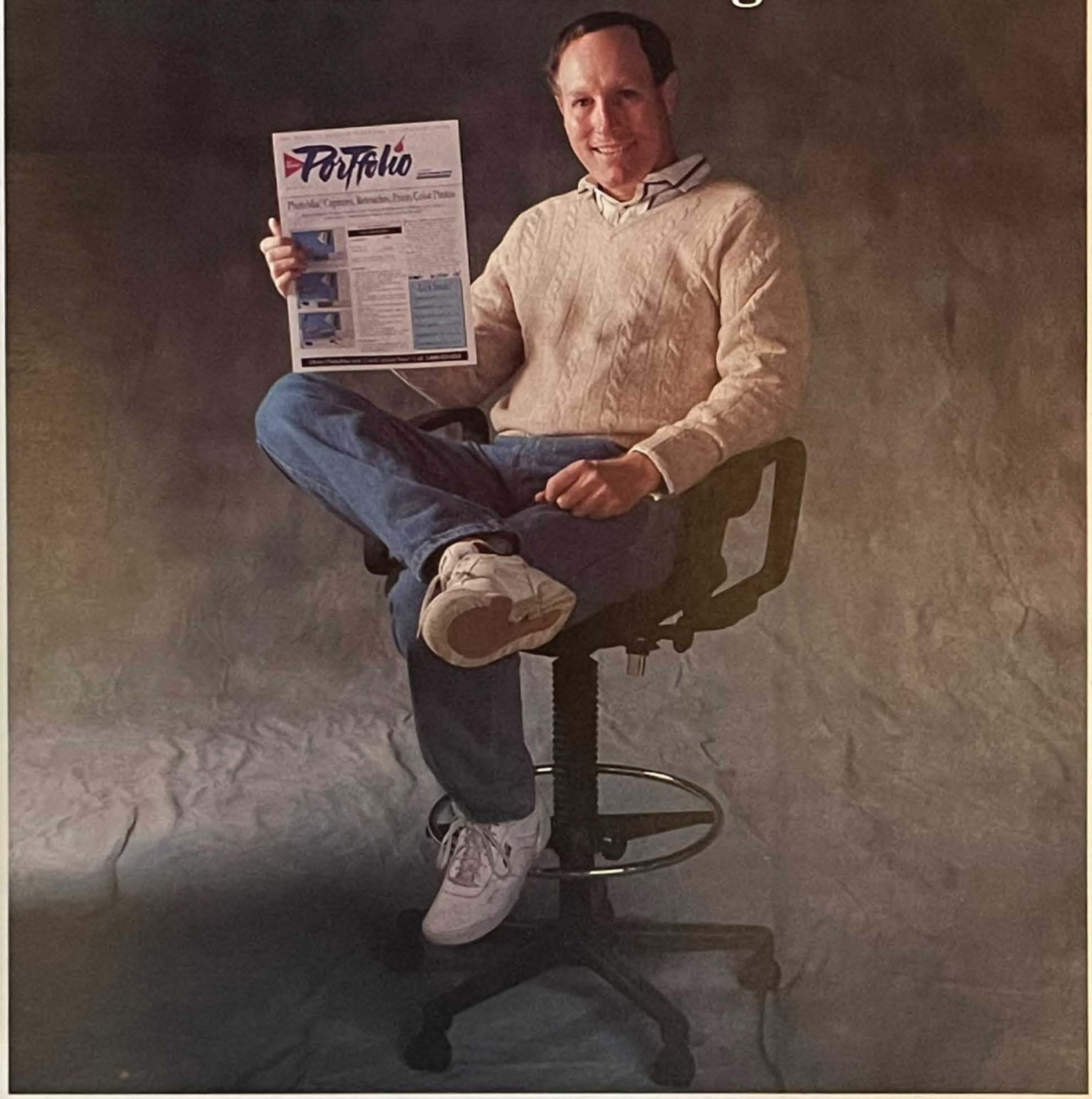

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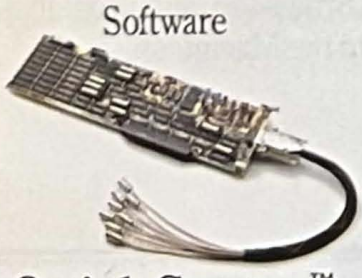

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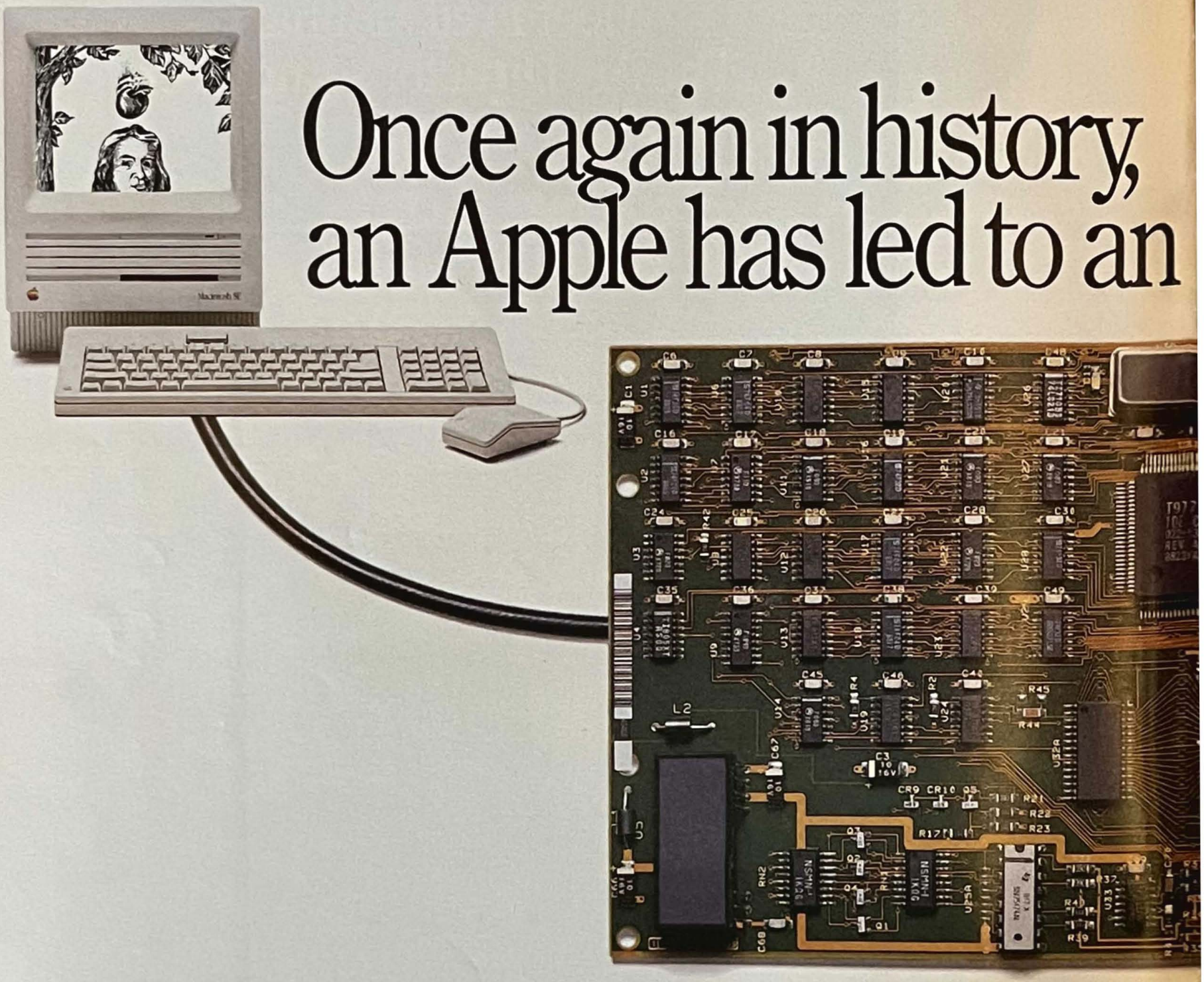

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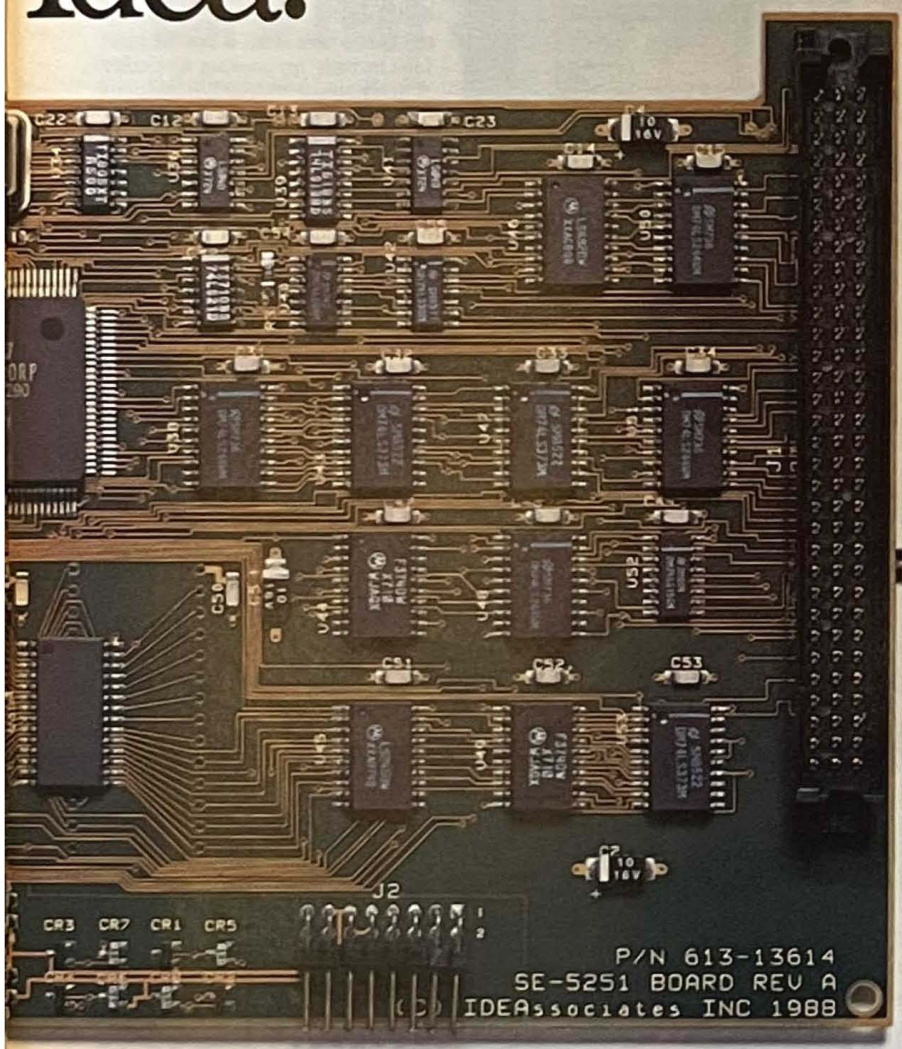

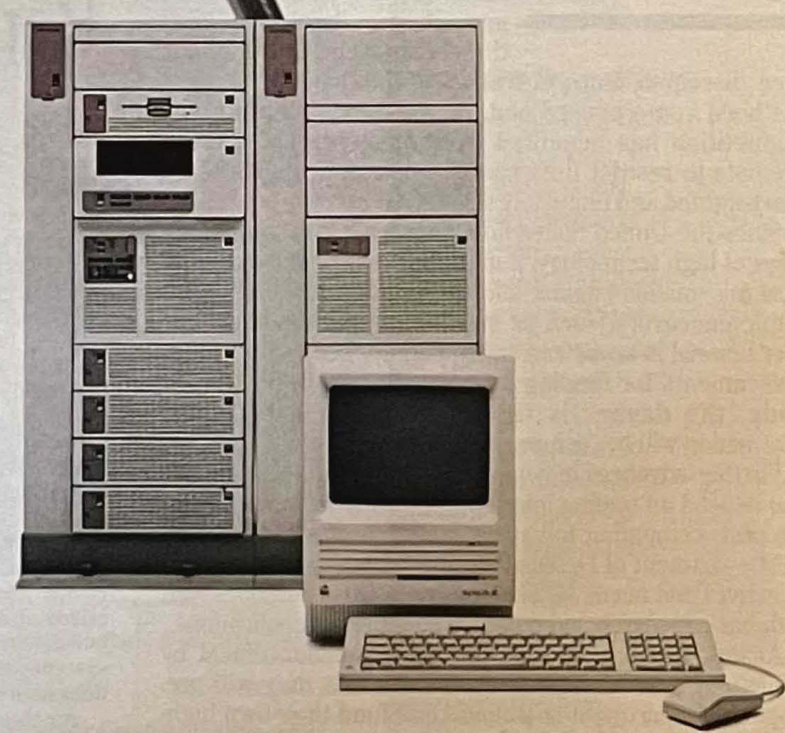

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Editorial

Macs support free flow of ideas in science

Macworld Expo wasn't the only San Francisco show of interest to computerphiles last month. The annual meeting of the American Academy for the Advancement of Science, the nation's most prestigious scientific organization, demonstrated how much a part of the pursuit of science graphical desktop computing has become.

Scientists gathered in San Francisco reported using the Mac in areas as diverse as chaos theory and DNA sequencing. But because contemporary scientific endeavors are so complex, not every researcher who needs high-level computations can be an expert at programming and using the most sophisticated scientific computers.

That's where the Mac, with its legendary ease of use and graphical interface, comes in: It can serve as a gateway to larger on-line information and computing resources, such as those on the National Science Foundation network (NSFnet), which connects approximately 200 institutions. Jane Caviness, director of NSFnet, said she hopes [the network] "will change the way we do science in this country."

The high-definition TV consortium is a step in the right direction.

Recent government attempts to restrict the free flow of ideas and knowledge within the technical community, however, have cast a shadow over such ambitions. The accessibility of "sensitive" technical data, particularly to foreign nationals, has in recent years provoked a xenophobic backlash that threatens science's traditional open discourse. Born of fears that U.S. national security has been compromised and, more recently, that foreign competition has benefited from open research, these attempts to restrict the export of data are proving to be short-sighted and ultimately self-defeating.

Since the United States no longer leads the world in all areas of high technology, it depends on scientific and technical information coming into the country. Most large scientific endeavors, such as superconductor research, are international in scope and depend on the good will of other governments for funding and technical know-how. As in trade, the danger is that embargoes on technical information will be reciprocated.

Further advances in computer science and technologies also depend on trading information with other countries. In the past, computing initiatives have too often come from the Department of Defense — where the mission-oriented objectives and needs for secrecy are at cross-purposes with both basic research and potential commercial applications.

Against this background, the recent announcement by Apple and other computer companies that they will preempt the Department of Defense and fund their own high-definition TV research consortium is a welcome step toward restoring true U.S. competitiveness in electronics. Any future national information policy must reflect the reality of interdependence and not hide behind the cloak of protectionism. The price we pay for participation in the global technology base is freedom of information. Such a policy of open research in both science and computing will ultimately give the end user greater power and flexibility. □

LETTERS

Raskin on 'long, strange trip'

I was honored that Connie Guglielmo's article on the history of the Macintosh ("Developers relive long, strange trip," Jan. 17) started with my work. Every year as reporters do more research, my role becomes clearer in the public eye.

While it is gratifying to finally be getting recognition for what I did, I'd like to offer a few comments:

▸ The photo was great, although the reader might well wonder why I was posed with an Apple II. There is a passing reference in the text to an Apple II with a monitor in the lid, but it is not explained in the caption. That particular Apple II is Serial No. 2, the second one made for commercial sale. I used it in the role of an early Apple evangelist to give demonstrations. At one point, I fixed the little monitor seen in the picture to the lid so that I could face a big monitor to the audience and still see what I was doing. The scoop that you didn't know you had is that this was the first photo of this system published anywhere.

It worked very well, and I proposed to [Mike] Markkula and [Steve] Jobs that Apple provide a cover with a built-in monitor (with a 9-inch or so screen, of course) as an option. The idea of a built-in monitor thus predates the Mac, and I never gave up the dream.

▸ It was a bit ironic that immediately to the right of my picture, in an

interview titled "The man at the top looks to the future," you quote [John] Sculley as saying, "But I can't take any credit for [the Mac's] original inception. That really goes to Steve Jobs and his team, and also to the people who worked with Lisa." Sculley knows better.

▸ The Guglielmo article said, "To Raskin's annoyance, Jobs endorsed the 68000." The decision to go to the 68000 was endorsed by everybody (myself included) when Burrell Smith solved a technical problem allowing it to work with "one row" of memory. The 6809 was the processor of choice at first. People forget that I was charged by Markkula with creating a $500 machine, and I had to argue it up to $1,000 on the grounds that, at the time, you could only build a game machine for $500. At first a 68000 was not a financially possible choice and I, as a responsible manager, had to keep the product inside the guidelines I was given. Later, the 68000 price dropped, we wanted to use [Bill] Atkinson's wonderful work from the Lisa project, and with Smith's circuit it became feasible.

▸ When Guglielmo writes, "Jobs was energetic, enthusiastic and determined to recruit the best people for his endeavor," it is positioned in the article so that it sounds as though I was neither energetic nor enthusiastic and did not bring on the best people. This is not the case. Jobs forbade my moving a number of good people from other divisions into the Mac project as I wished to. His reason: They are too essential where they are. As soon as he took over he did what he would not let me do, and moved some of those very same people to the Mac project. He wanted the project and the credit for creating the Mac. He got the first; after all, he was chairman of the board.

Jef Raskin
Information Appliance Inc.
Palo Alto, Calif.

Clarifying ink on Modula-2

I would like to thank you for covering Modula-2, a language that gets

See LETTERS, Page 28

MAC SOAPBOX/*Andrew Goodman*

Reporters eat up trade shows

If you had been driving along the freeway in the California desert one mid-November morning, you might have seen a car racing at 90 miles per hour toward Las Vegas. This car didn't carry no gamblers, as the old song goes, but rather two computer reporters who were worried that they might not get to Comdex in time.

GORDON STUDER

Or, just last month you could have walked by a packed San Francisco hotel meeting room some distance from the Macworld Expo exhibit halls. The crowd inside was comprised of more computer journalists, listening to speeches about a product that's been on the market for years.

Are these two stories the tales of dedicated reporters hot on the trail of a story, striving to bring their readers the very latest information? Hardly. The car is whizzing through the desert so its occupants won't miss the free food being used to attract reporters to events at Comdex, the biggest computer trade show of the year. And the reporters in the San Francisco hotel room are impatient as 30 or so users of a major software company's product deliver boring speeches — impatient because nothing newsworthy is being said and the reporters are hungry.

The fact that the reporters have to wait for their watercress is a relatively new development. In the old days, say 1986, public relations people served lunch to computer journalists while the speeches were going on. They found, to their dismay, that reporters hung around the buffet table talking to each other instead of listening to the presentation. So the PR folks have created a bifurcated process, with the food following the flack. It's a tacit agreement between the regiments of reporters — those huddled masses yearning to eat free — and the platoons of PR people vying for their attention: If the press will sit quietly through a half hour of uninformative propaganda, the PR people will provide free food after they're done talking.

This practice of treating the press like royalty is not limited to computer trade shows; at the presidential inauguration, for instance, Bristol Myers and Clairol had a "Freshen Up" suite, where unkempt correspondents could stop off for a manicure or a haircut. But, just like their colleagues in the political press corps, journalists at computer trade shows can't help but wonder, at least fleetingly, what is expected of them in return for the freebies — especially when there is rarely any news of

See SOAPBOX, Page 28

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- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
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- ☐ 12. Retail, Wholesale, Distribution
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- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
01. Macintosh II		
02. Macintosh SE		
03. Macintosh Plus		
04. Macintosh (Other)		
05. IBM/Compatible Micro		
06. Workstation (e.g. Apollo, Sun)		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: Purchased by your clients through your firm's recommendations per year _____ (specify quantity)

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
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7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
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- ☐ 50. CAD/CAM
- ☐ 51. Graphics
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- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
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- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
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- ☐ 03. Communicate with remote mini or mainframe computers
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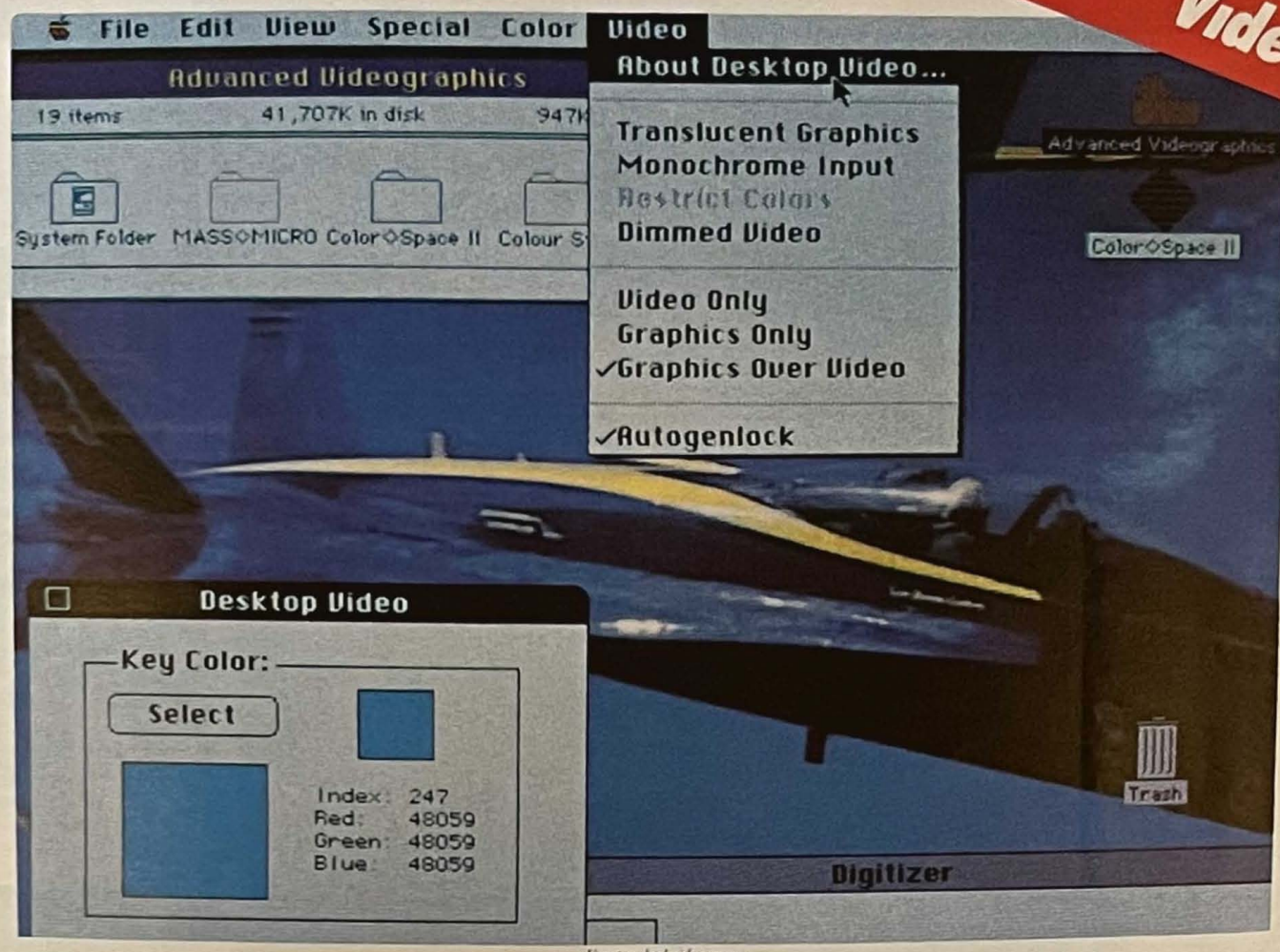

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SOAPBOX

Continued from Page 26

substance spread along with the pâté.

Could it be that the sponsoring company's motive is to keep us off the computer streets? After all, if we're chowing down with company ABC, we might not have time to make a thorough visit to company XYZ's booth. That's especially true if XYZ is a small company with a small budget for PR and can't afford to host events where warmed-over announcements serve as a prelude to well-chilled shrimp.

Or is it just image control, an effort to make us, subconsciously, disposed to say nice things about a company's products and people? At the very least, we can carry our notebooks and tape recorders around the show floor in the spiffy corporate bags provided by the company at the press lunch, making us in effect advertisers for the company's wares.

In any case, we still attend these infuriating would-be press conferences, drawn by the promise of food and the hope of news. The gossip in the press room at computer conferences now is just as likely to focus on which press feeding frenzy will have the best food as it is on which company is introducing the most exciting product.

And that's a shame. Occasionally, these food events really do serve some kind of purpose, either by exposing journalists to something that is genuinely newsworthy or by creating an environment in which we can meet informally with sources. And when that's the case, we should attend happily and gobble down the calamari without a second thought.

But when there's nothing else for us in it, we should drop our truffles and walk out. Legitimate press conferences get lost in the shuffle, and the independence of the press is threatened. Besides, I'm gaining weight. □

Andrew Goodman is the co-host and chief correspondent for The Computer Show, a nationally syndicated television program.

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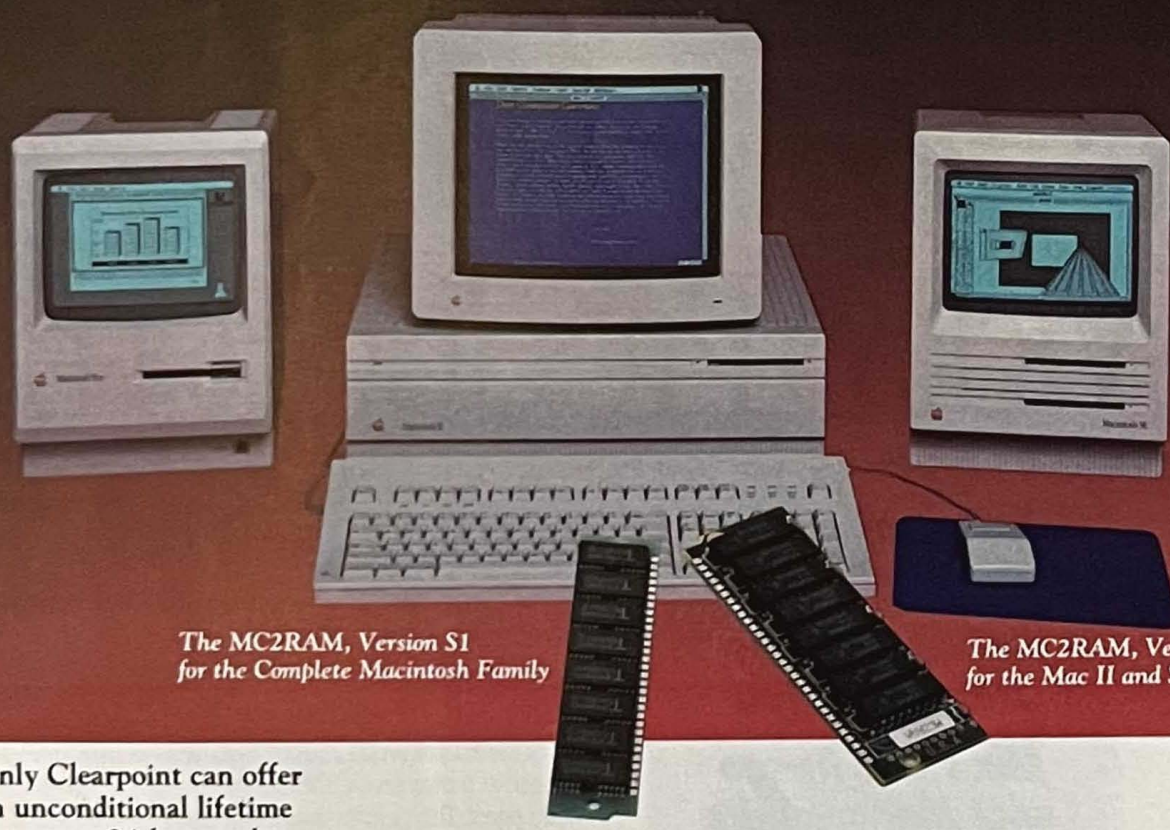

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LETTERS

Continued from Page 26

much less use and ink than it deserves.

MacWEEK 's article [on Modula-2] in the Dec. 6, 1988, issue, however, contained two errors. First, the article stated that Metropolis Computer Networks has brought out the first stand-alone Modula-2 compiler for the Macintosh. It also stated that SemperSoft Modula-2 is the only other compiler for the Mac. While Metropolis Computer Networks is to be saluted for bringing out another Modula-2 compiler, and SemperSoft Modula-2 is without doubt the finest Modula-2 compiler I have seen available for the Mac, there are several others. Most of them are stand-alone systems [that] run without MPW. These include MacMETH and MacModula-2 from Modula Corp. of Provo, Utah; The Power System: Modula-2 for the Macintosh from Pecan Software Systems Inc. of Brooklyn, N.Y.; and Modula-2 Regular, Developer's and Commercial versions from TDI Software of Dallas.

Beginners in Modula-2 should know that MacLogimo-Plus, distributed by Project Modula of Provo, Utah, has lots of nice features (including a symbolic debugger) and sells for just under $20. It is also available free from selected bulletin board services. An even better version is under development.

Lyle D. Gunderson
Pleasant Grove, Utah

MacWEEK regrets the error, which was introduced in the editing process. — The Editors

Accounting on Mac with Great Plains

In response to Darrell Hatt's letter (MacWEEK, Nov. 29, 1988), we would like to clarify our position regarding the Macintosh version of the Great Plains Accounting Series.

First, Hatt is a customer of Great Plains Software, and we have discussed with him his concerns about the reporting capabilities of our Macintosh version vs. our MS-DOS version of the software. He is justifiably upset that he cannot run certain reports from the information in his Accounting Series. However, the fault does not lie in the Great Plains product. As we have discussed with Hatt, the technology does not exist in the Mac environment to produce those results, although Great Plains continues to look for ways to improve the report-writing capabilities of our Macintosh products.

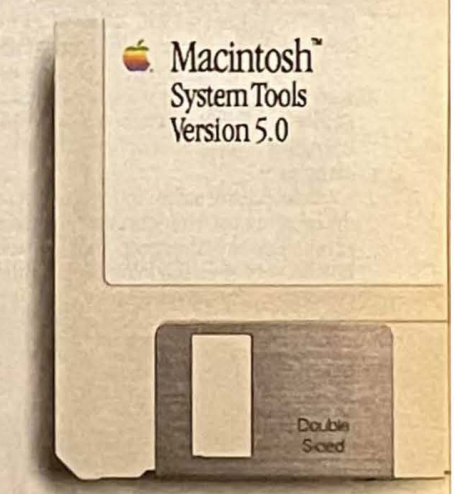
Second, Great Plains continues to believe in the capabilities of the Macintosh as an accounting tool in small business, as do Peat Marwick and Apple (evidenced by the very successful Macintosh Accounting Seminars). However, it is not Great Plains, Peat Marwick and Apple who make those decisions, but the businesses that continue to request strong Macintosh accounting solutions.

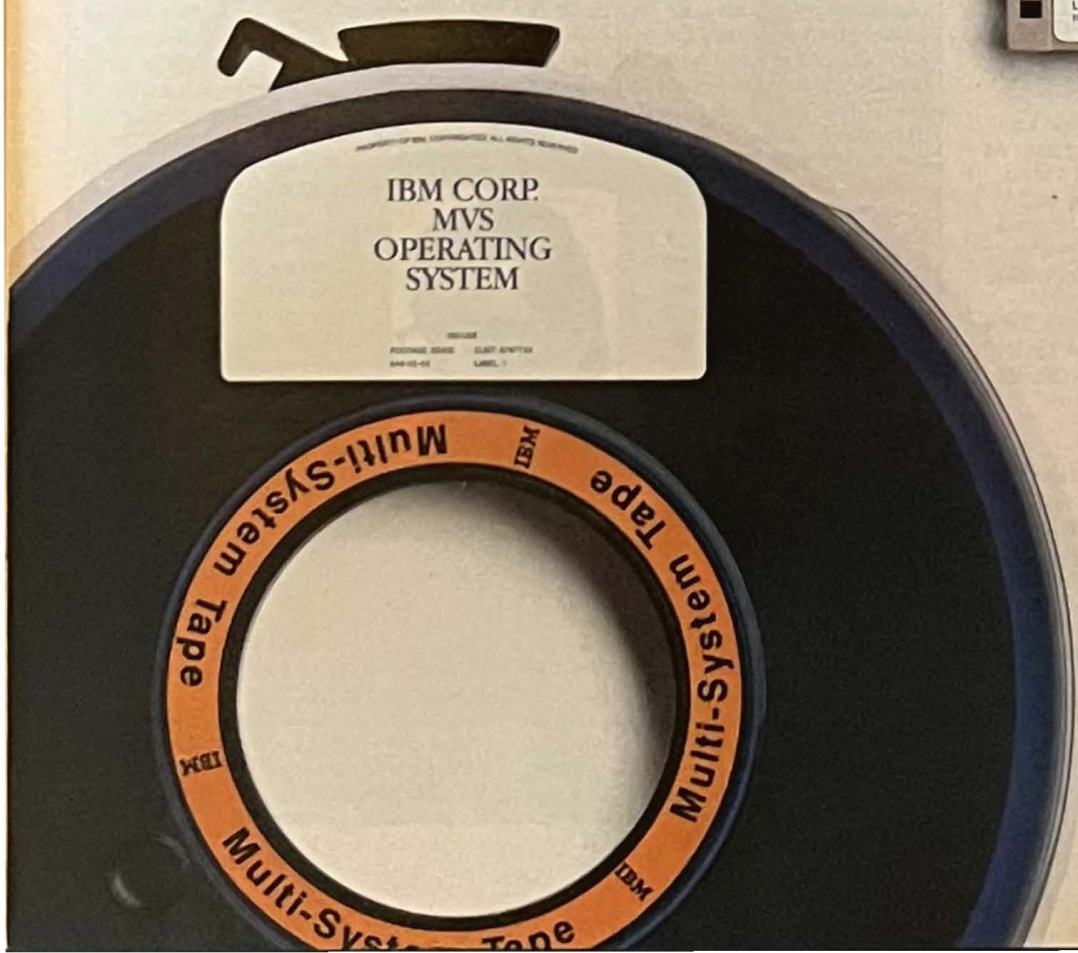
It is our hope that soon the needs of Hatt and others in his situation can be met by Great Plains. In the interim, we encourage businesses looking for Macintosh accounting to discuss a strong solution for their companies by visiting a local reseller or contacting Great Plains Software.

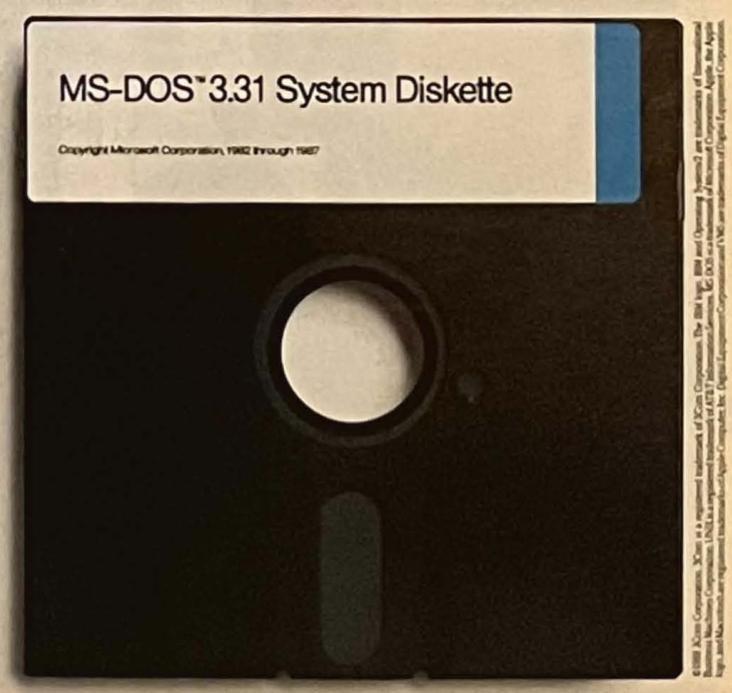
Gretchen Heim
Great Plains Software
Fargo, N.D.

Got a beef with something you read in MacWEEK? Or like what you see and want to make a writer's day? Send your faxes, your letters or your MCI messages to MacWEEK letters, 525 Brannan St., San Francisco, Calif. 94107. MCI number 323-1203; fax number (415) 243-0513.

WITH SO MANY DIFFERENT OPERATING SYSTEMS TO CHOOSE FROM, WHERE DO YOU DRAW THE LINE?







You're connected ... and your troubles have just begun

Connectivity solutions give faster, easier access to information, but implementing them can be a headache.

By Jerod Poore

"Great product. Fantastic support. Nobody's used it," lamented Greg Morgan, Apple's manager of administrative systems development. Morgan is in charge of a technical team that is converting the collection and retrieval of data from Apple's VAX-based personnel system, using CL/1 from Network Innovations of Cupertino, Calif.

While remarks like Morgan's are common rallying cries for managers faced with any new technology, connectivity problems have their own special dimensions of complexity.

Connectivity solutions involve not only deciphering particular products, but also reconciling two divergent, and occasionally hostile, sets of methodologies, priorities and concerns. "The host becomes a Macintosh peripheral. That drives the host programmers crazy," Morgan said.

Connectivity boosters maintain that decentralizing the storage and processing of data gives end users faster and easier access to the required information.

Exceling at frustration. Despite its advantages for users, the technology itself can just get in the way. Frank Volpe, controller for Chamberlin Waterproofing and Roofing Systems of Houston, is a one-year veteran of connectivity. Unwilling to abandon his Mac, Volpe opted to purchase a DCF II protocol converter from Wall Data of Redmond, Wash. His first priority was to get his home-based Mac to emulate a dumb terminal for his company's IBM System/36.

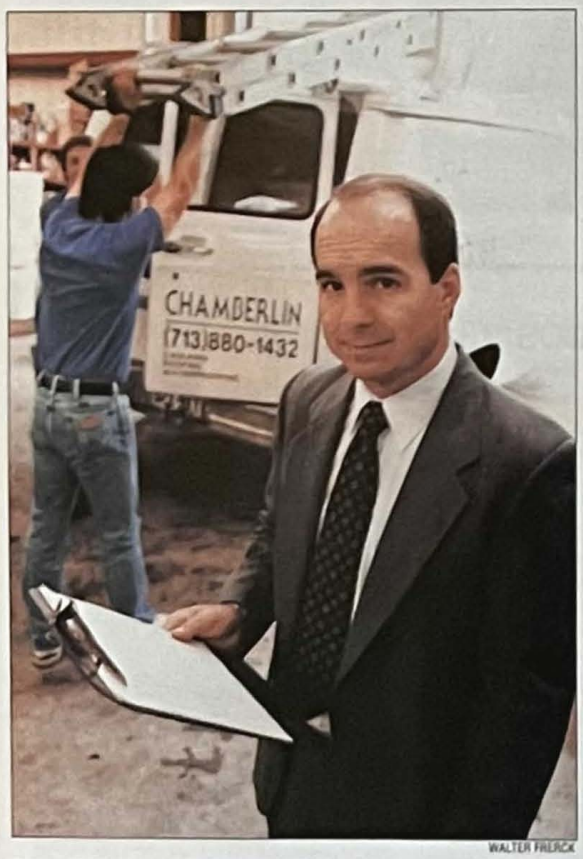
Once that was accomplished, he tried to print reports, originally generated by System/36-based software, on his ImageWriter LQ. The process was extremely slow. Worse, the printed documents included far too many of the □'s that denote unprintable characters.

He also discovered that reports were saved to disk but not automatically removed by the software, overloading his hard disk.

Volpe gave up on remote printing and now picks up his reports at the office.

Still determined to make connectivity work, Volpe acquired Wall Data's FTX/5250 file transfer software as well as a second Mac to use in the office. To better calculate job costs and work in progress, he needed to download mainframe data into Excel spreadsheets on the Mac. But the file transfer software cannot select data that meet certain criteria. As a result, Volpe first had do some programming on the System/36 before he could produce Excel-acceptable files. Then, Volpe initiated a file transfer.

Two hours later he had a text file on the Mac. Excel then translated it — all into the first column of the spreadsheet.



WALTER FRERCK

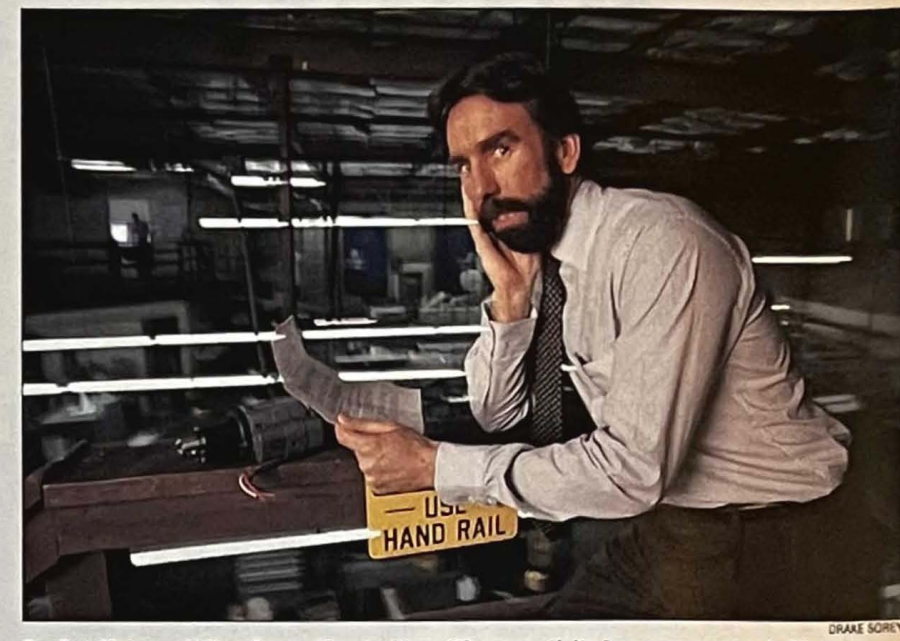
Frank Volpe found that connectivity solutions required time-consuming programming and numerous work-arounds.

Using a monkey wrench as a hammer. As is the case with many IBM products, a tool designed for one job is often employed for a task unrelated to the tool's original purpose. For example, the System/36 has no true database management system. So to get data into a more useful form, Volpe had to use the Interactive Data Description Utility, or IDDU, which was originally developed to facilitate screen designs. In this instance, IDDU redefines System/36 files into an Excel-compatible format. Yet a 1-Mbyte file can still take up to two hours to transfer. And the procedure is far from simple.

"I'd like it to be real convenient; just push a button and it works," Volpe said wistfully.

That's a wish that won't be easily granted. In one disastrous attempt at convenience, Volpe used QuicKeys from CE Software to record the required keystrokes. After storing his commands, Volpe replayed the keystrokes. The connection dropped. He couldn't get the machines to talk to each other. Eventually, he saw the dreaded bomb. Volpe unloaded and reinstalled the emulation software with no success. Ultimately, he had to reformat his hard disk to correct the problem.

Why does he still do it? "We're not a real computer-literate company," he said. "The original (System/36-generated) reports frightened people."



DRAKE SORREY

For Rob Melany of MicroPump, Mac-to-Wang VS connectivity has proven remarkably easy.

The art of compromise. On the other hand, some users have had nothing but good luck with connectivity solutions. Rob Melany is the vice president in charge of data processing and engineering for MicroPump of Concord, Calif. He uses MacLink+/WangVS, a product developed jointly by DataViz of Trumbull, Conn., and OmniGate of San Francisco. "It's done everything I hoped it would do," Melany said.

For more than two years, Melany has had a Wang VS 65 collecting data to be analyzed on Mac Pluses and lately has added SEs and Mac IIs to the system.

Unlike most connectivity products, MacLink+/WangVS is a data transfer package first, with terminal emulation included almost as an

Continued on Page 32

NET RESULTS/*PETER LISKER*

File servers for the Mac come of age

AFTER USERS HAVE ENDURED several years of empty promises, file servers for the Macintosh environment have finally come of age. Currently, a broad range of file servers is available. Besides Apple and companies like TOPS, Novell and 3Com, new players like Jasmine have entered the market with file server products.

PETER LISKER

As a result, corporations bringing Macintoshes and AppleTalk into local- and wide-area networks have more to consider — and more to gain — when determining what products or strategy to follow in setting up file servers.

The question of dedicated servers, like AppleShare and 3Com's 3+, vs. non-dedicated servers, such as TOPS' arrangement whereby any PC or Mac can function as both a file server and a workstation simultaneously, is perhaps the foremost question in the minds of managers who must plan and implement network solutions.

But for most managers, deciding on a file server strategy is more than choosing between a dedicated or non-dedicated server. Factors such as performance, backup, security, cost per node and cabling schemes must be evaluated in light of the feature and performance goals set for the network system.

While it is difficult to quantify many aspects regarding performance, a number of points can be made. First, performance in a networked file server is dependent on the number of nodes in the network and the mix of processing they require, along with the processing capabilities of the file server itself. Dedicated file servers can handle heavy demands much more effectively than non-dedicated implementations. That's part of the reason you pay the price of dedicating a machine to act only as a file server.

Yet there are ways to implement non-dedicated servers that can meet higher performance criteria. Apple's new Mac SE/30 with a 68030 and caching will be an attractive platform for non-dedicated server implementations. The processor is fast enough to adequately deal with the performance toll taken by splitting its attention between the desktop and the network.

See SERVERS, Page 32

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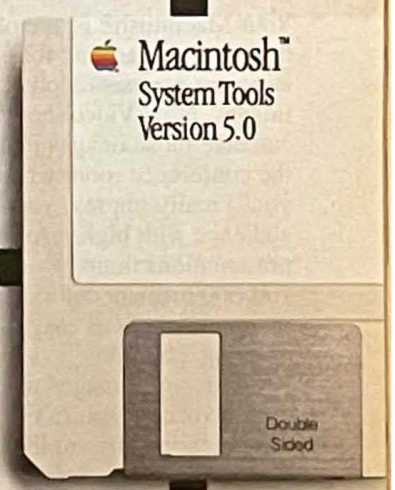

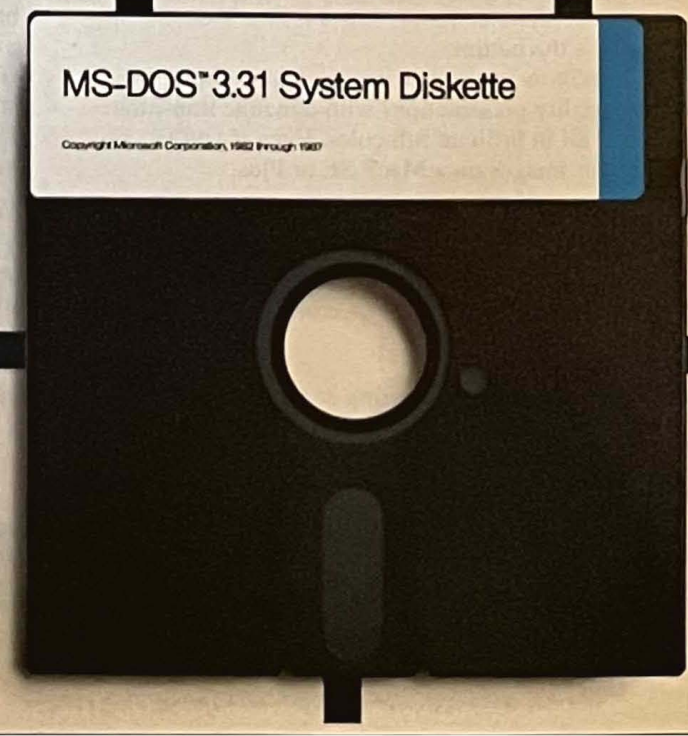

THE ORGANIZATIONAL MAC

■ "The host becomes a Macintosh peripheral. That drives the host programmers crazy." — Greg Morgan, Apple

Continued from Page 30

afterthought. The emulation is extremely memory-intensive, using 1 Mbyte of RAM on the Wang, half of what Melany has available. And with the VS 65 limited to 4 Mbytes at most, emulation becomes a tough exercise in resource management. At MicroPump, Mac users are encouraged to avoid signing onto the Wang during peak usage hours.

Still, the transfer of data from the Wang to a Mac is reasonably painless. A WangWP document can be opened by Microsoft Word with the original format intact. The menu-driven procedure to download data onto the Mac includes standard record-selection criteria. While a transfer can take up to half an hour, most of the work can run in the background under MultiFinder. Only the final conversion of data from the Wang format to that of the Mac requires a dedicated system, but it won't interrupt another task being performed under MultiFinder. After the transfer, the software will wait until the user is ready for the data.

Once in a spreadsheet, however, the data may not always be in the precise columns that users expected. Of course, macros could be written to tidy things up, but Melany found a method that is easier and often faster.

The MacLink+/WangVS software makes no distinction between data stored in a database and data stored in a report waiting to be printed. The data in a report are already formatted into columns, and most record selection has been taken care of. Also, by transferring a report instead of raw data, Melany avoids the headaches associated with record locking. Depending on the host's operating system and seemingly random factors commonly dubbed "phase of the moon" by programmers, a record-lock state could stall the data transfer and crash host-based applications.

One other feature distinguishes MacLink+/WangVS from most other connectivity products: It's ridiculously easy to install. "Anyone with a fairly inquisitive mind can get it running in half an hour," Melany said.

Placing blame. Still, some connectivity problems have no easy solutions. For example, users are easily frustrated when a Mac keyboard acts differently during terminal emulation. And when forced to use someone else's Mac as a terminal, the user may find that the keyboard map has been customized in seemingly mysterious ways.

Then along comes an upgrade to the host operating system, and suddenly connectivity is a thing of the previous release. The stickiest problem is finding someone to blame.

Connectivity is still new territory, and in a shop where IBMs are mixed with Macs and VAXes using yet another vendor's product, dealers will inevitably resort to finger-pointing. That means the user becomes responsible for isolating the problem. After all, you can't expect IBM to fix a problem with the Finder.

In other words, today's connectivity pioneers are the Daniel Boones of the office. They're blazing trails, identifying and eliminating dangers and making connectivity safe for those who follow. It won't be an easy path. □

Jerod Poore is a System/38 programmer for Pacific Molasses in San Francisco. In addition to contributing to MacWEEK, he writes science fiction for various underground magazines.

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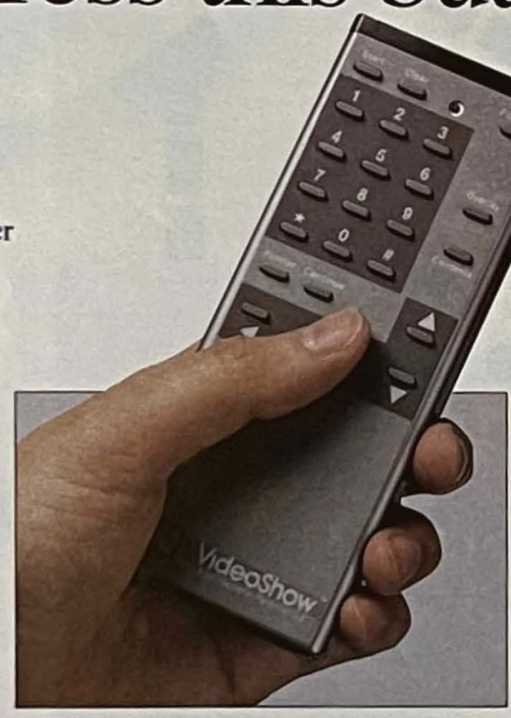

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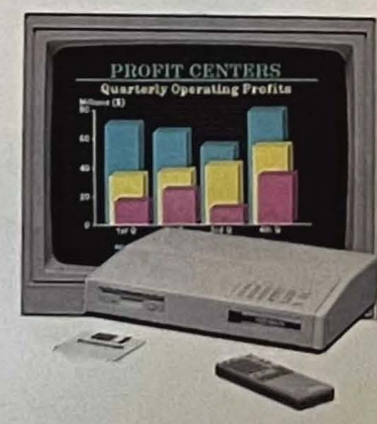

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SERVERS

Continued from Page 30

On the dedicated side of the file server fence, Jasmine's DirectServe, a $1,299 hardware/software package that is compatible with AppleShare 2.0 yet doesn't require a dedicated Mac, should become popular. DirectServe potentially can support a heavy network load for a low per-node cost (estimated at $65 to $130 per node).

Jasmine claims performance increases of 20 percent to 40 percent over a dedicated Mac-based server, although I'd like to see some evidence supporting this before fully recommending the product, which is expected to be available this month.

Another critical area of concern for managers regarding file servers is backup and data integrity.

In a non-dedicated environment, backup is the users' responsibility and thus represents a significant exposure risk for DP/MIS management. If users fail to adequately back up their local disks, which of course include files used by others in the group, and lose data (for whatever reason), the whole group can be affected.

In a non-dedicated setting, it is therefore important to devise a series of procedures to guarantee that everyone is backing up disks and that common files exist at more than one spot in the network.

Clearly, setting up file servers offers enormous benefits and also carries the risks inherent in networking. Improved productivity, better communication and a smoother work flow are advantages of file servers and networking. Yet it is also clear that unless careful planning and analysis are done before any network or file server is installed, the results can be disappointing, with poor performance, or even dangerous, with loss of important data. □

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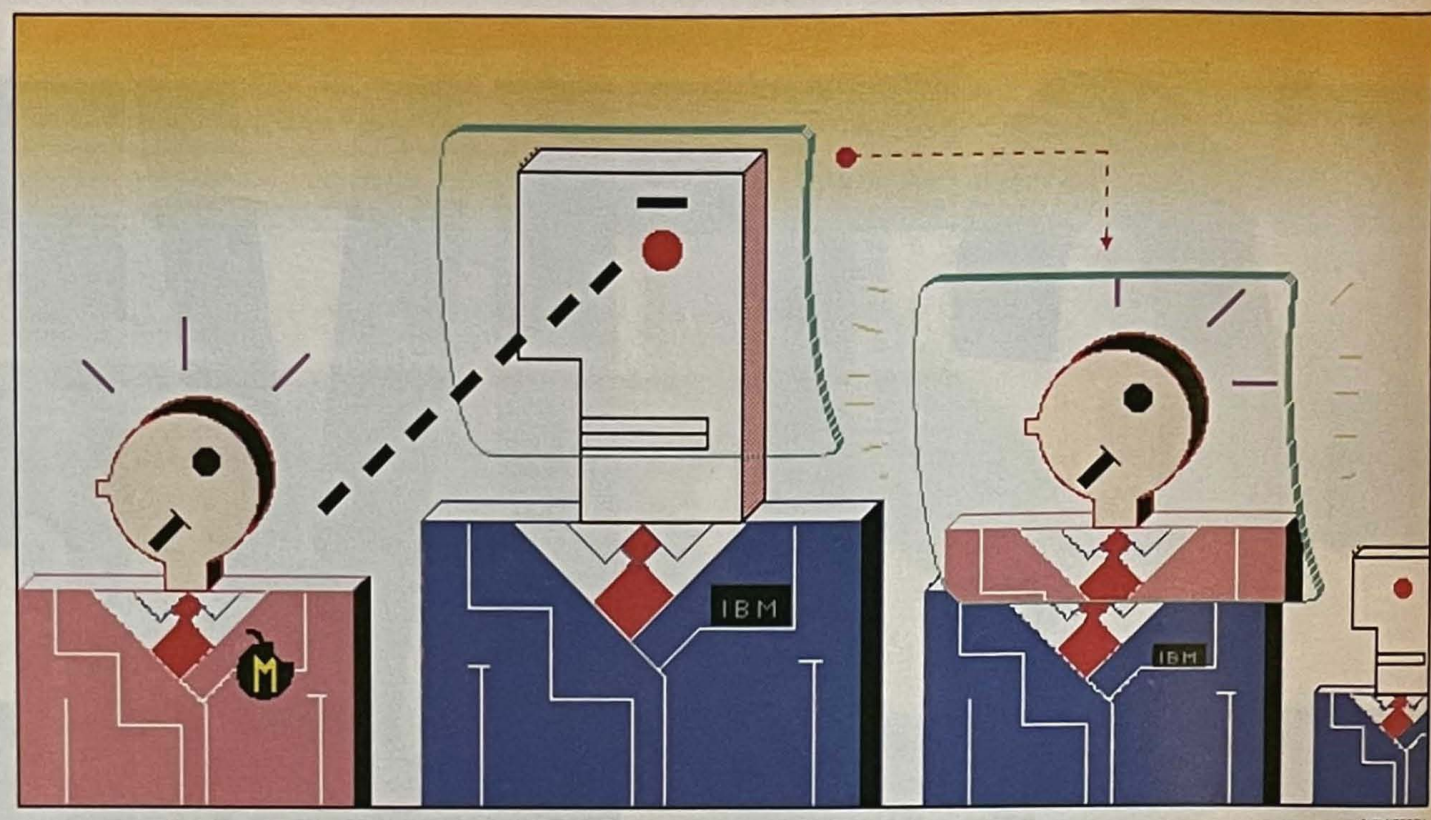


JOHN HERSEY

Up front with HyperCard

HyperCard opens the door to custom interfaces for host databases.

By Jonathan Oski

If you are like most HyperCard users, you have probably seen your fill of home card replacements, not to mention address, recipe, music and personal organizer stacks. While of value to some, these stacks do little to illustrate the potential of HyperCard to make all computers easier to use.

The Macintosh, of course, has made its reputation by being easy to use. Now HyperCard, when used as a front end for communicating with other computers, has the potential of making them easier to use as well. A number of HyperCard tools have recently become available that allow you to use HyperCard as a front end to a variety of host computer systems.

Avatar's HyperCard API for its MacMainFrame interface card, DCA's HyperCard API for the MacIRMA interface board, and the serial and AppleTalk tool kits available from APDA, allow developers and users to create customized front ends to IBM mainframes, DEC VAXes and other similar host computers. With the use of the common elements of the Macintosh user interface (buttons, dialog boxes and pull-down menus), a previously confusing user interface to an IBM host application could be made more accessible to the common user.

While such improvements can also be accomplished with such products as Apple's MacWorkstation and SuperMac's Acknowledge, these programs require more work, cannot be done entirely on the Macintosh, do not support a wide range of communication protocols and interfaces, or are not easy enough to use.

Concept to prototype. "The beauty of [HyperCard] is that I can go from concept to working visual prototype in a matter of days," said David Drucker, director of The Boston Computer Society's MacStackGroup and an independent consultant. "Developing a prototype front end to an IBM-based mail system, PROFS, for a Boston area bank took only a week and was enthusiastically received."

Mark Gire, manager of application and data services at Fireman's Fund in Novato, Calif., has been using Avatar's API since October to develop front ends to VM and TSO applications on its IBM host computer. "It is easy to build things quickly and to see your results immediately," he said. "HyperCard's object-oriented environment is particularly suitable because you can build things incrementally and easily share scripts among different stacks."

Gire faults Avatar's product with one crucial flaw, however. "The major problem is that there is no support for file transfers with the current release," he said. "We need access to the Avatar MacMainFrame file transfer so that we can download data from our host into Excel work sheets."

There are other limitations to the Avatar API, notably that it only supports 3270 Model 2-type terminal emulation (80 characters by 25 lines), according to Gire. He found that the stack shipped with the product, however, gives users a good start at developing their own IBM interfaces. Moreover, Avatar includes the source code for the external function (XFCN) upon which the API is based, so that you can make further changes to customize the API.

Front to back. "With the proper tools, anyone will be able to create their own personalized AppleLink, CompuServe or GEnie interface that is better than those available commercially today," said John DiBiasi, president of Softworks of Huntington, Conn. DiBiasi said that his company may release a HyperCard tool kit later this year that will empower any HyperTalk programmer with facilities to "whip up" HyperCard front ends to any communications based service.

The speed with which HyperTalk programmers can create many iterations of a user interface to the same host database could ultimately give end users more control over their data queries. "By using HyperCard, [internal] developers will be able to create interfaces to corporate databases that are focused specifically on the needs of individual users."

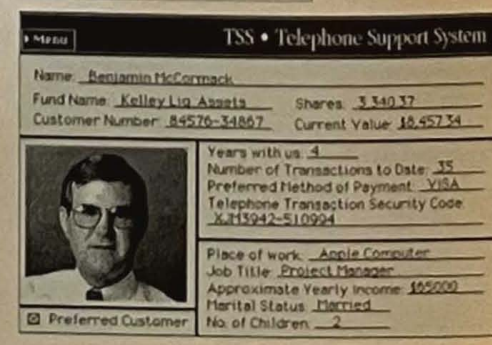
Ideal creation environment. Most developers with whom MacWEEK spoke seemed to agree that HyperCard provides an ideal environment for creation of host front ends. Kay Lukens, a Seattle-based independent consultant who uses both the Avatar HyperCard API and SuperMac's Acknowledge, prefers HyperCard. "You can take a stack apart and leave it in shreds on your table to tweak some of your code without losing any data," she said. "Most stacks can still function in a state of disarray."

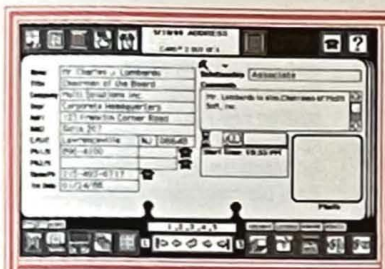
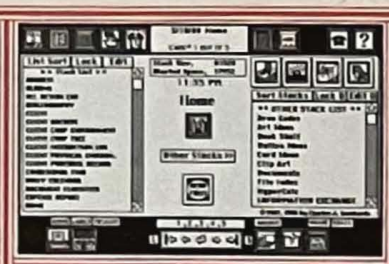
On the horizon, many people see Oracle for the Macintosh and CL/1 from Network Innovations as providing richer tool sets from which HyperCard front ends can be developed. "This market is still very much in its infancy," said Boston Computer Society's Drucker. □

Jonathan Oski is a technical engineer doing research and development on emerging technologies for a large, Boston-area bank. He is a frequent contributor to MacWEEK.

The HyperCard front end to Vista Bank's mainframe includes interfaces for easy access to the mail system (left) ...

... and a stock sales database (right), as well as information needed to make and track stock transactions.



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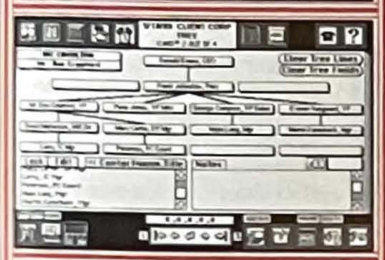
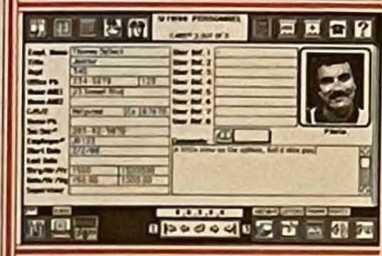
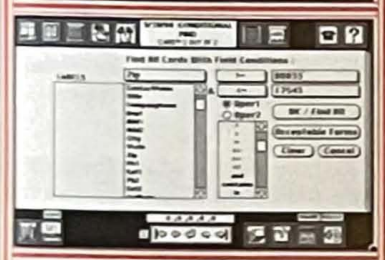

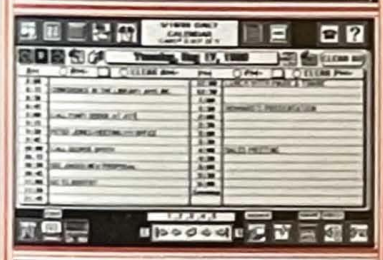
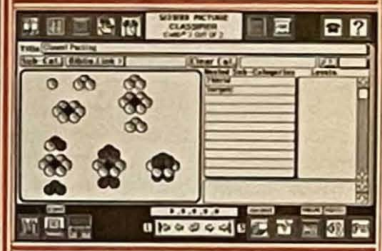
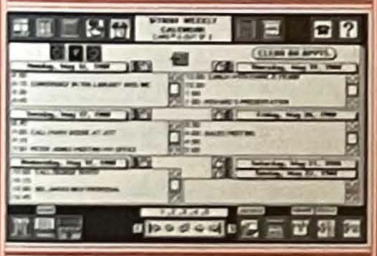
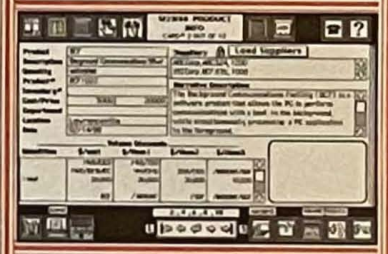
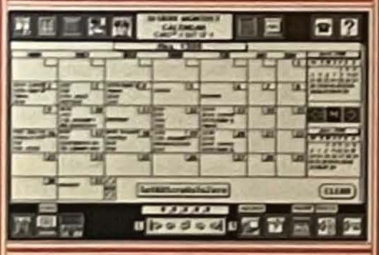
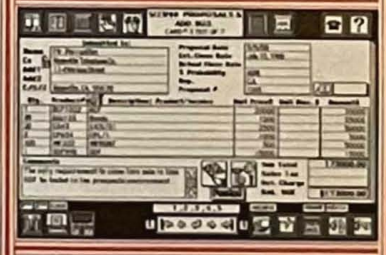
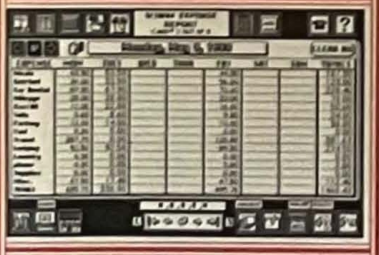
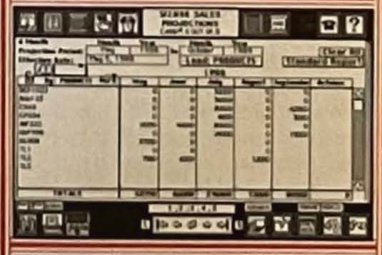

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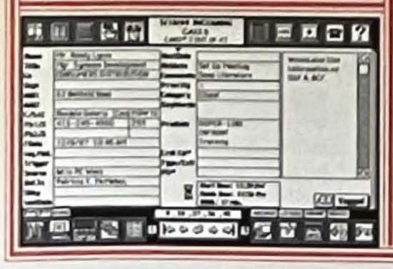
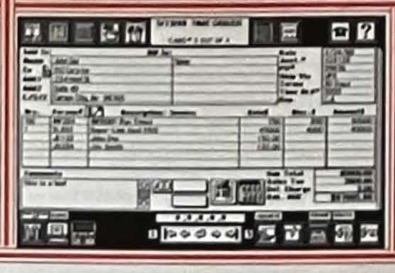

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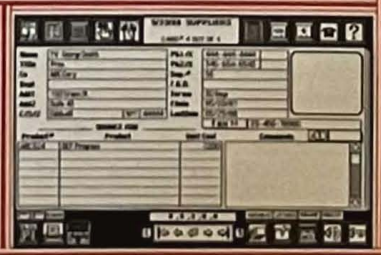


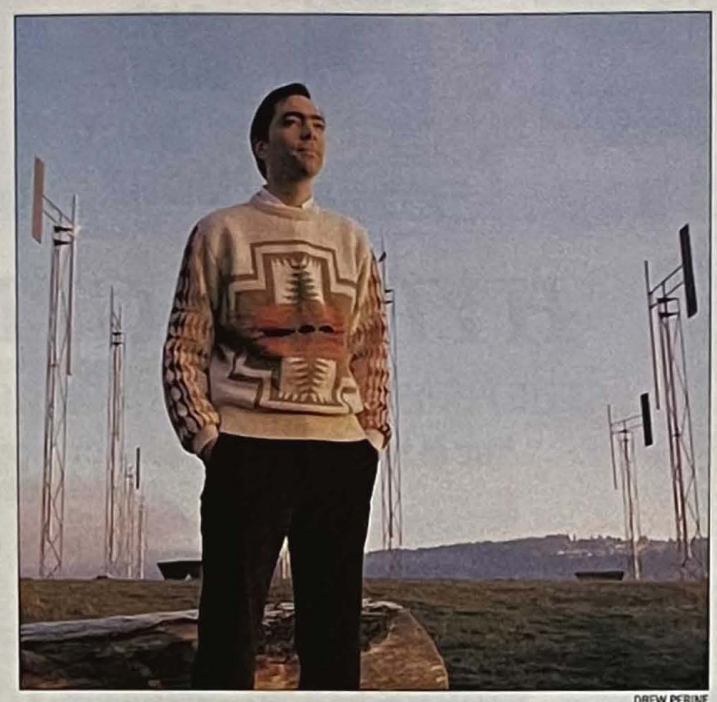
Can we HyperTalk?

There's more than one way to make HyperTalk serve your programming needs.

By Steve Michel

Since its introduction a year and a half ago, HyperCard has generated a great deal of discussion, much of it centered on its HyperTalk programming language.

Perhaps HyperTalk's most notable characteristic is its ease of learning and use, which stems partly from its English-like syntax. Its similarity with object-orientated programming, in which complex problems are broken up into smaller chunks, also makes it easier to learn. HyperTalk has introduced programming to a new generation of users who aren't so much interested in learning programming as in getting a job done.



DREW PERINE

Bob Pavia (left) of the National Oceanic & Atmospheric Administration created the CAMEO series of stacks, which provides information on hazardous chemicals for emergency personnel.

Bob Pavia of the National Oceanic & Atmospheric Administration (NOAA) in Seattle helped develop a set of 17 HyperCard stacks called CAMEO (computer-aided management of emergency operations). CAMEO includes a database of 2,500 chemicals used in planning for and responding to hazardous chemical accidents.

Aside from a course in Fortran and some BASIC, Pavia had almost no formal training in programming. He found HyperTalk intuitive and easy. And like many other HyperCard users, he was "programming to get something done; the programming was not an end in itself," he said. "Our goal was to build an easy-to-use database, and when HyperCard came along we stopped working with other programs."

Pavia found that the advice of others who were more experienced in programming was essential. "You still need good programming structure," he said. "I had some good people I could call on who were professional programmers." While HyperTalk is easy, it is still programming, and things such as repeat structures and if-then tests still take time to master.

"It's easy to make some buttons that link cards together," said David Gewirtz, president of Hyperpress Publishing in Foster City, Calif., which publishes Dan Shafer's ScriptExpert. But facing a blank screen in a new script can intimidate new users, he said.

Extending HyperTalk. Gewirtz finds the ability to use HyperTalk external commands (XCMDs) and functions that are written in compiled languages such as C or Pascal to be one of its more beneficial features. "When you reach the limits of HyperTalk," he said, "you can extend it, just like a real programming language."

A major criticism of HyperTalk is that it is an interpreted language. An interpreted language evaluates each line of a script or program as it is running the program. A compiled language, however, takes a one-time pass through the program and translates the lines of code into machine instructions at that time. While interpreted languages are easier to learn and, for small projects, take less time to develop, interpreted programs run much slower than compiled languages.

In many of the tasks that HyperCard is used for, flipping through cards or linking buttons, the speed difference is insignificant. However, HyperTalk's slowness can inhibit development of large or complex programs. Gewirtz finds this "one of its biggest weaknesses." For those comfortable and experienced at programming the Macintosh in compiled languages, externals can be used to make up for HyperTalk's speed deficiencies, as well as for extending HyperTalk's capabilities.

Compiling HyperTalk. CompileIt!, a new HyperCard program from Heizer Software, addresses the speed problem by compiling HyperTalk scripts into XCMDs or XFCNs. These compiled functions work much faster than standard HyperTalk scripts. Although CompileIt! has its limitations, it will allow many developers to speed their programs up considerably.

> HyperTalk has introduced programming to a new generation of users who aren't so much interested in learning programming as in getting a job done.

Brian Molyneaux, Heizer's product manager for CompileIt!, said that handlers that use integer arithmetic and repeat loops will undergo considerable speed increases. CompileIt! also protects code from accidental modification or use by others.

There are persistent rumors, too, that HyperTalk creator Dan Winkler is working on methods to speed up HyperTalk. Whether this takes the form of a built-in compiler or a method of storing "tokenized" scripts (instead of current character-based scripts) is still unclear.

HyperCard is still an evolving program. As Apple releases new versions of the program, and as third parties create HyperCard-like or HyperCard-compatible programs as well as new tools for extending HyperTalk, HyperTalk will also evolve. In its first year, it has brought programming power to many who would not otherwise have bothered. As HyperTalk matures, it should attract even more users to programming. □

ART OF THE POSSIBLE

The Mac gets chunky without nuts

FULL CHUNKY, chunky planar, full planar. Or maybe chunky with nuts? You'll certainly be hearing the first three of these terms, and maybe even the fourth, as the Macintosh System software undergoes a transition to a new way of dealing with color.

The way the Macintosh organizes and treats color bits (called the "color model") is at issue. Full chunky, planar and chunky planar are some of the proposed methods. The consequences are important for anyone who buys, designs or uses color output.

The precipitating factor is that Apple is about to supply a standard for so-called deep-color images, images that contain more potential shades and hues because they allocate more bits of memory to describing each point on screen. Black-and-white images, with just two choices per pixel, are one-bit deep. The current Apple-brand video cards, with their 256 available simultaneous colors, are eight-bits-per-pixel deep. The new standards will support images with millions or billions of possible colors and representations up to 24- or even 32-bits-per-pixel deep.

STEVE ROSENTHAL

As with many standards issues, the genesis of the problem is a technology that has outpaced a once-appropriate solution. Back when the standard QuickDraw routines were first written, the Mac had only a monochrome screen. Practical color printers were limited to a few colors, and plotters were the main color output device.

Consequently, QuickDraw was equipped with a simple color register-type model. You could tell QuickDraw you wanted to draw in any of eight colors, but applications and printer drivers had to do most of the work. Bit-mapped images, for example, weren't stored in color; they were stored only as arrays of black-and-white dots.

When the Mac II appeared, Apple created the present method, commonly called eight-bit color, and embedded it in the Mac as Color QuickDraw. Using this arrangement, the Mac provides a table with 256 possible entries, and fills it with selected default values from a palette of more than 16 million possible colors. You can change those values, but you can only order up one of the 256 currently loaded in. To access more shades of red, you may have to give up shades of blue.

Essentially, your programs can just send QuickDraw an eight-bit value specifying which of those 256 current values you want output to the screen. If your program specifies more than eight bits per pixel, those values are mapped into eight bits before they're sent along for output. If you have a deep, richly colored picture in memory (images in memory can be up to 48-bits-per-pixel deep), you still get only an eight-bit view of it.

That isn't always enough. While the exact bit depth needed to provide maximum useful fidelity and image quality is arguable, a number in the twenties seems to be the consensus value. And because computer circuitry is standardized on units of eight bits, one commonly accepted value is 24.

Now, here's the chunky part. If we have, say, a screen of 1 million pixels (1,000 by 1,000), and we decide to allocate 24 bits per pixel, we need 8 Mbytes to store the image.

We'll assume the color model must work with standard video technology, with images made up of red, green and blue components. We would allot eight bits for each of those colors, for a total of 24 bits. We'd also like the system to work for gray scale and other screens.

How do we arrange the image in memory?

We could treat each of the 24 bits for each pixel as a separate item of information. Then we'd arrange the image in memory with the first million bits representing the low bit of each pixel, the second million bits in memory would describe the next image bit, and so on through the last million bits of memory for the high bit of the image. In effect, it's like 24 complete screens stacked one in front of the other. This is the full planar method.

Or, we could treat each color as a group, and put all the red bits in memory first, then all the blue bits, then all the green bits. We have both chunks (the eight bits making up one color for each pixel) and planes (the group of all eight-bit chunks for one of the three colors). To continue our analogy, this would be like three screens, one for each complete red, green and blue, stacked one in front of the other. This is chunky planar.

Or, we could treat each pixel as an item, and devote the first 24 bits to the first pixel, the next 24 bits to the next pixel, and so on until the last 24 bits for the last pixel. No bit planes, no color planes, just chunks of data for each pixel — that's the full chunky model.

There are good arguments for each method, but on the Mac, full chunky will be the standard. I'll talk about why and about what happens to products that picked a different mode in the next column.

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HyperCard takes the hype out of multimedia

HyperCard is the tool that is shaping multimedia for corporate and commercial developers.

By Eric Alderman, Jim Edlin and Tay Vaughan

HyperCard's ability to integrate and control various forms of communications media has placed it in the forefront of multimedia developments. At the same time, Apple's push to make HyperCard the core element in multimedia has been largely responsible for recent interest in the technology.

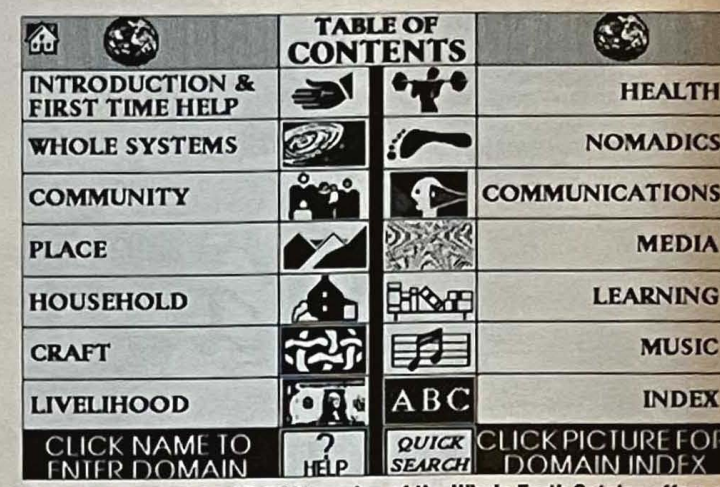
"Apple's standardization of multimedia on a HyperCard platform allows developers a better focus in this genre," said Larry Samuels, vice president of Mass Micro Systems. "The diversity of direction in multimedia software development had confused the marketplace."

HyperCard-based multimedia projects typically bring together such diverse technologies as live-action video and still images stored on laserdisc, high-resolution color digitized images, music and speech stored as computer data, and CD-quality audio tracks for direct output from a player. Multimedia developers also make use of touch screens, color scanners, music synthesizers and other input devices as well as projection systems, slide makers, special video boards and various output devices.

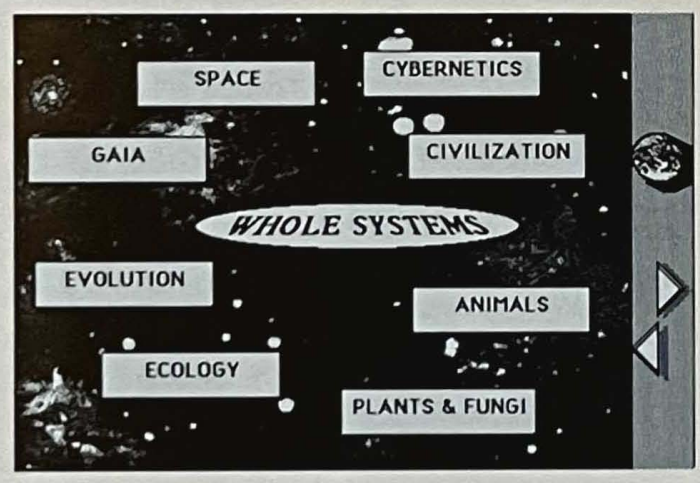
Multimedia in the marketplace. Some wholesalers and manufacturers view multimedia workstations as vehicles for distributing catalogs into their dealer and reseller channels. Dedicated workstations can combine the random access and full-color capabilities of videodisc with high-capacity CD-ROM data storage. Text descriptions, pricing information and color images are readily at hand using custom-designed HyperCard information retrieval software. With multimedia, what have traditionally been "flat" catalog databases have evolved into powerful "image and information bases" with special expert systems.

A recent CD-ROM version of The Whole Earth Catalog makes use of HyperCard to access visual and audio materials with friendly search routines. Some catalog systems under development include automatic telephone dial-ups. Similarly, visitors to the World Alpine Ski Championships in Vail, Colo., this month will be able to make restaurant reservations from U. S. West Communications' videodisc-based public information kiosk.

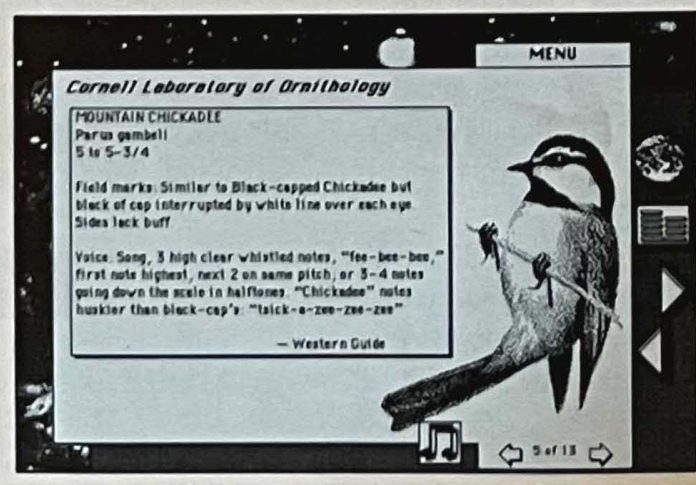
Multimedia in the work place. In the corporate world, storing images, sounds and text on the Mac platform is becoming more common as multimedia technology reaches critical mass. The Electric Power Research Institute (EPRI), an energy research organization in Palo Alto, Calif., for example, has recently begun an image archiving program that includes several thousand digitized photographs, motion video footage, audio clips, and related text and data.



The main menu of the CD-ROM version of the Whole Earth Catalog offers a number of subject areas.



Clicking on the Whole Systems icon in the main menu of the CD-ROM Whole Earth Catalog brings up topics of a universal nature (above). Clicking on the Animals button retreives other options, including digitized bird songs (below).



These applications comes clear evidence that both hardware and software tools are becoming more refined, more widely available and less expensive, and that HyperCard and its supersets have emerged as a leading platform on which to base multimedia projects. □

Eric Alderman, Jim Edlin and Tay Vaughan are senior partners in The HyperMedia Group, an Oakland, Calif.-based custom multimedia development organization.

Emerging tools. Many of the tools necessary to make multimedia a reality are just now becoming commercially available. Interface boards combine, or genlock, computer information and live video for display on a single monitor. HyperCard videodisc control tools developed by Apple and a host of other utilities in the form of XCMDs and XFCNs allow HyperCard to control full-color, full-screen images and play compressed digitized audio.

"The current generation of Mac technology has crossed the minimum threshold required to do good multimedia work," said Peter Levy of IntelliChoice of Cupertino, Calif.

While HyperCard is the current focus of developer attention, many eyes are turning toward even newer platforms such as the recently announced SuperCard from Silicon Beach Software and Plus from Format Software. Stepping beyond the capabilities of the current HyperCard version, these HyperCard-like applications provide built-in support for large monitors, color images and smooth animation.

Many developers are eager to work with more powerful tools. "From a product standpoint we are always waiting for better platforms," said Levy. "Our job will become a lot easier when the software tools catch up to the hardware's capabilities."

Considering the nascent state of the technology, there are a surprising number of developers designing real-world multimedia projects. With easily recovered and studied for use in other projects.

"Once the images have been mastered to videodisc," said Steve Drenker of EPRI, "we can access them in any number of ways for varied corporate purposes and needs. With its hypertext features, HyperCard allows us to quickly design multiangled views into our information base, and associated visuals are available at the click of a mouse. Often, a picture is worth more than a thousand words."

In New York, Jordan, McGrath, Case & Taylor Inc., a large advertising agency, is reported to be electronically archiving text, working drawings and final ad copy, including digitized audio. HyperCard's retrieval capabilities provide a vehicle with which the iterative and creative ideas that were part of an advertisement's evolution can be

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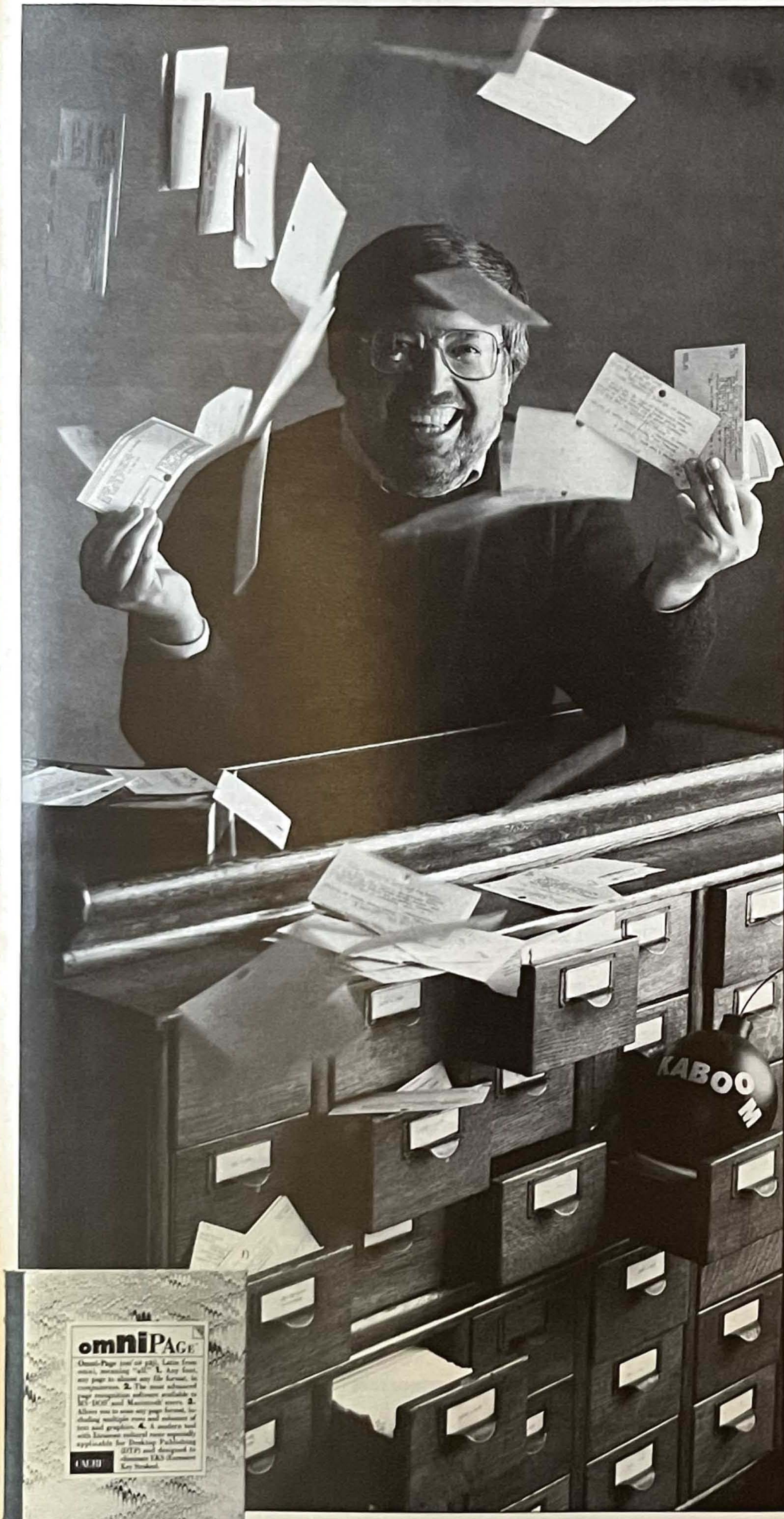

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Customer Profile

Danny Goodman

Age: 30 something.
It's hard to tell on guys with beards.

Profession: Author of the all-time best selling book, *The Complete HyperCard Handbook*, and more recently *Danny Goodman's HyperCard Developer's Guide*; software developer *(Business Class and Focal Point II)*. Described as a genuine "Renaissance Man"!

Hobbies: His idea of a good time is to scan the comprehensive quotes of the great Serbo-Croatian poets while enjoying a good glass of Chenin Blanc. Napa Valley, of course. He prefers non-computer keyboards, like the one on his Bechstein grand piano. A compulsive researcher!

His Page Recognition Software: *OmniPage*, of course. According to Danny: "In preparing a book, or working on a special project, I need to get at information quickly to avoid disturbing my work flow. With *OmniPage*, I can scan virtually any font, or font size, in any column format, and easily place it into an existing file. I'm building a library of articles, relevant to my work, on a variety of subjects."

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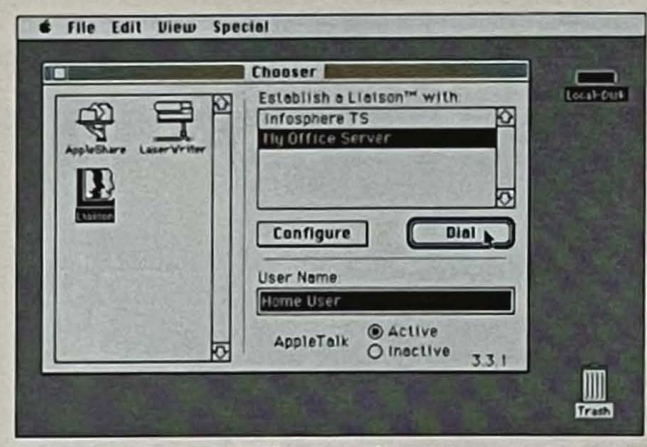
BY DAN MAGORIAN

Until recently, companies that needed to bridge networks had to choose one of several hardware solutions from Cayman, Hayes, Kinetics, Shiva or Solana. All of these companies offer devices that do some form of network bridging or permit devices such as modems to be shared over a local-area network. Now Infosphere, the publisher of MacServe, has begun shipping an interesting new kind of product: a software-only bridge called Liaison.

What can a soft bridge do? With alternate cabling systems available, network managers often have to connect different media as well as divide large networks into smaller sections for improved performance. Network bridges, if configured sensibly, accomplish both tasks. The problem is that hardware bridges are somewhat expensive and can be hard to justify for smaller networks. In addition, many bridges, such as the Kinetics' Fastpath and Cayman's Gatorbox, perform additional gateway functions that aren't needed in homogeneous environments.

Infosphere's answer is the software bridge. Instead of purchasing a dedicated device, any Mac can be used as a bridge if it has a network connection in each zone. The main advantage is low cost: All you need are the network connectors and the right software. The Macintosh serving as a bridge can still be used as a workstation. The main disadvantages are slower speed and lower reliability; the bridge slows down when the Mac is working on other tasks and disappears altogether if the Mac crashes.

Liaison also offers half-bridging functions. This means that by attaching a modem directly to a Mac running Liaison, you can call into or out from your local network.



Connecting from a remote Mac to an office server using Liaison's half-bridge dial-in features is handled through the Chooser.

It's important to note, however, that Liaison does not offer file sharing, print spooling or mail service by itself. Rather, it provides a software connection for services that are already available on the network.

Building bridges. Liaison is remarkably easy to get working. Basically, you just drag the Startup document (INIT) to the System folder and restart. Liaison configures automatically on start-up, obtaining zone names and numbers from existing bridges if present or entered incorrectly and setting defaults if not. Comprehensive security features are available, from a basic password to address books with authorized user permissions to the ability to limit certain users to the host node (a "personal" connection) while others can access network services.

In use, Liaison is controlled entirely through the Chooser. The zones to be bridged are selected in a configuration menu, and an EtherTalk network is automatically available if a card is present. Other than setting the zone names and numbers and selecting high vs. low background priority, very few of the primary full-bridge functions are visible. An application that collects statistics on the number of packets passed and the performance of each bridge would be helpful for tuning network traffic, but this is available from other sources.

Memory requirements are about 28 Kbytes for a half bridge and 64 Kbytes for a full bridge, and we found no noticeable problems with workstation performance on a 2-Mbyte Mac II running under the Finder. However, workstation responsiveness became sluggish with lots of printer or file service traffic. To prevent a workstation crash from eliminating your bridge, you can run Liaison on multiple Macs "in parallel," bridging the same zones for redundancy. This worked fine in our tests, but a separate copy of Liaison must be purchased for each bridge.

Surprisingly, on our combined EtherTalk and AppleTalk network, Liaison running on a Mac II offered bridging performance comparable to Kinetics' Fastpath 4 hardware bridge. Printing large page-layout documents to a LaserWriter IINTX was limited more by the printer speed than the bridge, and launching applications from a TOPS server took about the same time. Only when the Mac II was performing some intensive foreground task did bridging time increase, but then it doubled.

Dialing in and out. Most of the configuration options involve half-bridging functions. Eight types of modems are supported, including the most popular 9,600-bps brands. Because of the unfortunate state of high-speed modem standards, users should purchase two of the same brand to communicate reliably. We tested Liaison with different 2,400-bps modems, and the generic Hayes-compatible driver worked fine. All remote services that we tested performed as one would expect, except at a snail's pace. For example, a 9-Kbyte file transfer from an AppleShare server took 45 seconds, and opening a large folder took several minutes.

For reasonable performance, 9,600-bps or faster modems are definitely needed. But even then, services over a half bridge are only a fraction of the speed of a LAN. For dialing out from the network, Macs

See LIAISON, Page 48

Networking jargon defined

Simply transferring data packets from one network to another is called **bridging**. The networks can have the same or different physical cabling, but there is no data translation performed in bridging.

A **half bridge** is similar to a bridge except that the networks are not directly connected. Some other means, such as a telephone line with modems on each end, provides the medium of transfer.

A **repeater** is even simpler than a bridge. It reamplifies signals on a given media to allow greater wiring distances.

A **gateway** translates packets from one network protocol to another, such as from AppleTalk File Protocol (built into all Macs) to Network File Service (widely used between Unix machines) or Internet Protocol (an international networking standard).

— By Dan Magorian

THE WEEK IN REVIEWS

FileMagic eases HD navigation

BY BECKY WARING

FileMagic, a new utility from Magnus Corp., greatly eases navigation around large hard disks. Like Symantec's HFS Navigator, it bypasses the folder menu that appears at the top of the standard Open and Save dialog boxes. Instead, it presents a list of files and folders that you use frequently, which can be on any hard disk, even a file server. You can then choose files to open instantly, instead of having to search through many folder layers or hard disks.

FileMagic's innovation lies in its modularity and application-specific sets of files and folders. You can specify a different set for each program you use or use one set globally. The normal menu can also be used. You can search with FileMagic's Find File option. Finder functions such as Copy, Delete, New Folder and Get Info are also available, and they have handy Command-key equivalents, which cannot be changed. These functions are modular so that simply dragging them out of the System folder disables them.

While FileMagic itself is useful, Magnus has included two bonus utilities: WindowMagic and MultiMagic. WindowMagic provides a menu of currently open windows for bringing hidden windows to the front. MultiMagic lets you create MultiFinder sets of applications and desk accessories to open at start-up.

FileMagic was reliable in our tests but seemed to have some conflicts with the admittedly esoteric combinations of INITs and cdevs we use here at MacWEEK.

FileMagic lists for $99. Magnus Corp. can be reached at P.O. Box 744, Mukilteo, Wash. 98275-0744; (206) 742-1633.

That old time Mac religion. The word "bible" in the names of three new Mac products might be causing a little confusion. To shed some light on the situation, two bibles are books, and the third is a set of HyperCard stacks containing the Old and New Testaments.

The Macintosh Bible, 2nd edition, edited by Arthur Naiman, is billed as the best-selling general book about the Macintosh and is chock-full of hints and tips organized by topic. It's $28, comes with free upgrades and is well worth it. Contact Goldstein & Blair at (415) 524-4000.

The just-released HyperTalk Bible by The Waite Group is a sermon on the HyperTalk language. It costs $24.95 and is published by Howard W. Sams at (800) 428-3858.

HyperBible is a HyperCard version of the Thompson chain reference Bible, available in both King James and New International versions. The Thompson cross-reference system is used by scholars worldwide, and HyperCard access makes it truly valuable for students and religious scholars. The King James version costs $229.95 and is published by Beacon Technology, 3550 Stevens Creek Blvd., Suite 305, San Jose, Calif. 95117; (408) 296-4884. □

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4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
01. Macintosh II		
02. Macintosh SE		
03. Macintosh Plus		
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06. Workstation (e.g. Apollo, Sun)		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
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- ☐ 01. Macintoshes
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- ☐ 10. Local Area Networks
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- ☐ 12. Micro/Mini/Mainframe Links
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Peripheral Equipment
- ☐ 20. Laser Printers
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- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
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- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
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- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
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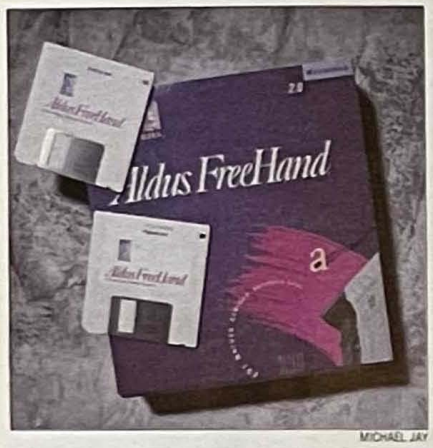
State-of-the-art PostScript software from Aldus

FreeHand has strong identity of its own



MICHAEL JAY

FreeHand 2.0

Aldus Corp.
411 First Ave. S., Suite 200
Seattle, Wash. 98104
(800) 332-5387

List price: $495

+ Outstanding text-handling features; flexible, easy-to-use grids and guides; powerful alignment and layering options; supports Pantone Color Matching System for both spot and process colors; style sheet features are a timesaver.

– Poor WYSIWYG for text effects; screen redrawing is quite slow in complex illustrations; multiple UserPrep files can be confusing.

BY BRUCE FRASER

At a casual glance, the new features in Aldus FreeHand 2.0 might seem to herald a desktop publishing features war. Adobe Illustrator 88 introduced autotracing, blending and Pantone color support, and now FreeHand 2.0 has these capabilities.

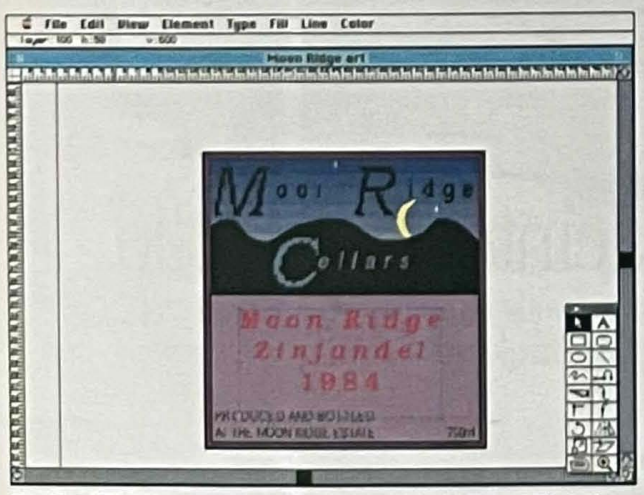
But a closer look reveals that rather than merely react to the market leader, Aldus has released a product with a strong identity that takes its own approach to PostScript illustration. FreeHand 2.0 doesn't try to outshine Illustrator 88 on all fronts. Instead, it concentrates on providing a page-oriented drawing environment with industrial-strength display type control while maintaining broad parity with Illustrator 88's features.

FreeHand's PageMaker ancestry. FreeHand 2.0 is oriented toward the printed page. It resembles its page-layout sibling, PageMaker, even more than its predecessor. The page-size drawing area (up to 40 inches by 40 inches) lies on a "pasteboard." You can drag non-printing guides from the on-screen rulers and use them to set up design grids. Or you can use more conventional alignment aids, including a MacDraw-style invisible grid definable in one-point increments and a powerful alignment command that lets you align elements with one another or with the grid or distribute them equally along either axis.

In addition to the usual Send to Back and Bring to Front methods of layering objects, you can position objects on any one of 200 printable layers or place them on the non-printing background layer as templates or guides. You use the Layer Control command to make all layers, only the current layer or a range of layers active and/or visible. (Objects on an inactive layer can't be selected and thus are locked.) Hiding layers has the dual benefit of speeding up screen redrawing and allowing you to concentrate on part of a drawing without being distracted by other objects behind or in front of it. The information bar immediately below the menu bar indicates the current drawing layer.

Drawings can be viewed in either Keyline or Preview mode. Keyline view shows paths as wire-frame objects, while Preview displays the artwork as it will be printed. As you might expect, editing in Preview mode is noticeably slower than in Keyline. You can work at any of seven levels of magnification, from 12.5 percent to 800 percent, using the Zoom tool, a Scale submenu or the Command-Spacebar shortcut, which temporarily turns the current tool into the Zoom tool.

Drawing with FreeHand. Drawing with FreeHand consists mostly of defining shapes, called paths, which are stroked, or outlined, and filled. To draw a path, you define a series of points, rather like connecting the dots in a puzzle. Each point has up to two direction handles attached to it. Moving the handles changes the shape of the adjacent curve. The FreeHand toolbox contains Illustrator work-alikes in the FreeHand Autotrace and Combination tools (the latter corresponds to Illustrator's pen), but it also contains Corner, Curve and Connector Point tools, which provide quite a different approach to drawing paths.



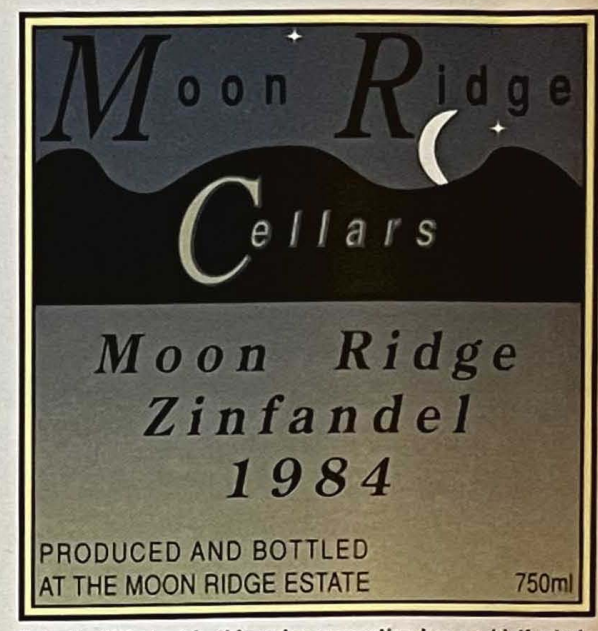
FreeHand 2.0's basic environment is simple and closer to that of Aldus PageMaker than the original version.

You click the appropriate drawing tool to place a corner, curve or connector point. FreeHand then positions the direction handles automatically. Corner points are the most flexible; both handles associated with a corner point can be moved independently. A curve point's handles both lie on a straight line running through the point, providing a smooth transition between the adjacent segments. The handles of a connector point are constrained to a tangent of the incoming curve segment to smoothly blend a curve into a straight line. This drawing method is unique to FreeHand. It's a little like a super-powered Polygon tool in MacDraw but with a much greater degree of control.

The Knife tool, new to FreeHand Version 2.0, lets you split paths. It works similarly to Illustrator's Scissors in that you can split paths anywhere along the line. The Rectangle, Rounded Rectangle and Ellipse tools create grouped objects containing four points to define the shape plus a fifth center point, which is useful as an alignment guide.

The transformation tools — Rotate, Reflect, Scale and Skew — work exactly like their counterparts in Illustrator. Clicking on the tool sets the origin of transformation and dragging sets the direction and amount. Or Option-clicking on the tool lets you enter numeric transformation values in a dialog box. You can power-duplicate multiple transformed copies by cloning an object, trans-

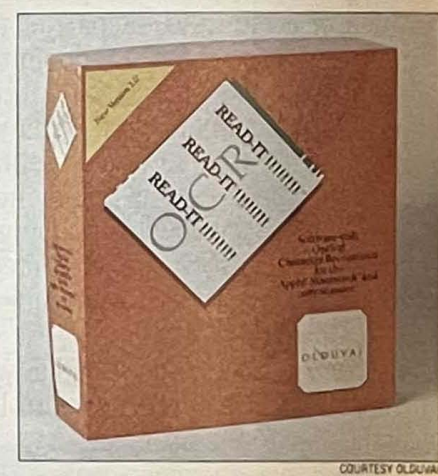
See FREEHAND, Page 46



Note the title text in this color separation has sophisticated attributes like kerned pairs and a shifted baseline.

TextPert, Read-It! upgrades make OCR accessible, exciting

RICHARD FOLKERS



COURTESY OLDUVAI

TextPert 2.1

CTA Inc.
866 Second Ave.
New York, N.Y. 10017
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List price: $995

+ Automatic page definition; can use Mac fonts for beginning templates; works with any Mac-compatible scanner.

– Certain sections of the manual poorly written; no on-screen help; no font templates provided on disk.

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South Miami, Fla. 33143
(305) 665-4665

List price: $395; $495 after March 1

+ Low price, high performance; most sophisticated user controls of any Mac OCR product; good experience-based advice in manual.

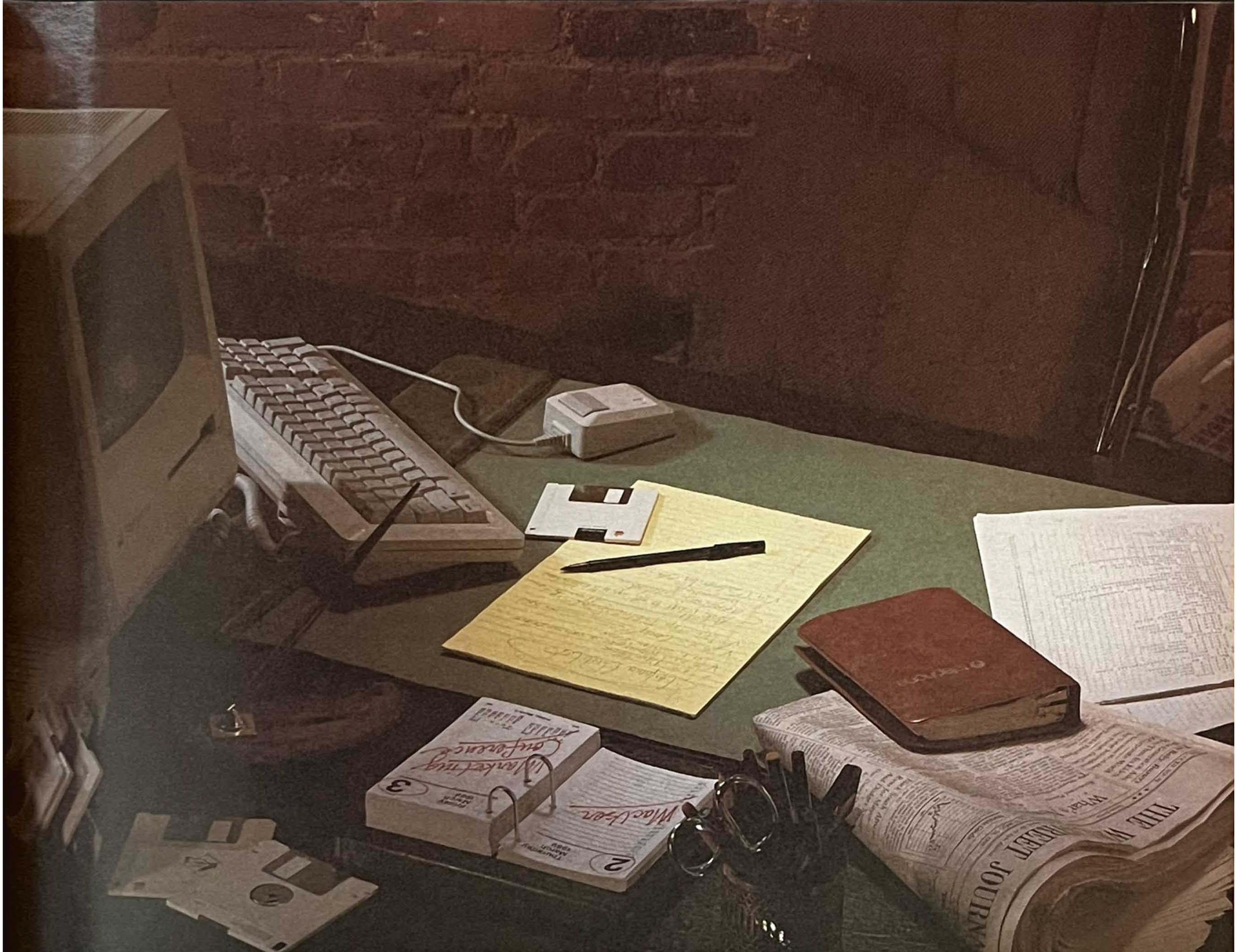
– No on-screen help; can't read underlined text; not enough explanation of advanced controls in manual.

BY SCOTT BEAMER

More and more businesses are discovering that the Mac can indeed read, if provided with a scanner and optical character recognition (OCR) software. These businesses are saving time and money while eliminating tedium by using OCR to convert printed pages to electronic files.

TextPert and Read-It!, two recently released trainable OCR products, are sure to bring this technology into a much wider range of offices. Trainable OCR packages require the user to "teach" the Macintosh how to read a particular typeface before converting pages to text. Automated packages don't require teaching but are usually less accurate in volume use. While OmniPage (see MacWEEK, Nov. 22, 1988) gave many OCR neophytes the impression that an automated product is the only way to go, in our

See TEXTPERT, READ-IT!, Page 47



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You'll sit in on a number of panels covering new technology; packaging, pricing, distribution, training, as well as products and expectations of the 1990s. Participating speakers will give you a good idea of what Apple is doing now and what they're planning for the next decade.

This conference will give Mac marketers the information needed to develop an effective marketing strategy, and provide a better understanding of the role advertising and PR plays in selling Mac products both at the wholesale and retail levels.

Macintosh marketers who want to capitalize on the market will benefit immensely from the conference. There's just one problem. Attendance is limited, so the first order of business is to register this very minute.

The price is only $495. To register or to get more information, telephone MacUser Magazine at (415) 378-5634.

MacUser
Marketing Conference

Continued from Page 44

forming it, then using the Duplicate command.

Text options. Text handling has always been one of FreeHand's strong suits. You can choose type sizes in one-tenth point increments; mix fonts, sizes, styles, leading and colors within a text block; set letter spacing (tracking) in points and apply a horizontal scaling percentage; shift individual characters from the baseline (superscript and subscript); and manually kern pairs in 0.01-em increments (the kerning value is displayed in the information bar). But Version 1.0 of FreeHand was seriously marred by its inability to apply a separate stroke and fill to text. This is not only useful for special effects, it is almost essential to create traps for color printing. Fortunately, FreeHand 2.0 has corrected this deficiency.

Clicking on the Text tool opens a dialog box where you enter, format and edit the text. The text appears in a text block when you close the dialog box. Unfortunately, many text effects don't appear as WYSIWYG in the dialog box. In fact, some don't even show up in Preview mode, so be prepared to run several test prints. Against this should be weighed FreeHand's nifty methods of allowing you to alter type by resizing the text block. Dragging a corner handle changes word wrap; Option-dragging the corner handle stretches or compresses the type; Shift-Option-dragging the corner handle proportionally resizes the type; dragging the bottom handle changes the leading; dragging the side handle adjusts the letter spacing; and Option-dragging the side handle changes the word spacing. You can, in effect, paint with the type, quickly experimenting with different ways to fill an area with text.

To place text along a curve, you select both the text block and a curved path, then use the Join Elements command. You can align the baseline, the ascenders or the descenders of the text to the path and rotate the text to follow the path. Or you can keep each character vertical while the baseline follows the path.

The original FreeHand contained a wealth of options for strokes and fills, including spot and process colors, custom PostScript routines, and graduated and radial fills. Version 2.0 supports Pantone Matching System (PMS) colors as either spot or process colors and pattern tiling, where you use artwork to make a repeat pattern. The New Blend command lets you interpolate a series of intermediate shapes and/or colors between two paths. This isn't as powerful as Illustrator 88's Blend tool, since you can select only a single reference point on each path.

More frills. You can create graphics style sheets by saving and naming multiple line or fill specifications, like line weight and color, for example. If you edit the style, the changes apply to all elements in the illustration that have that style. You can save template files, which contain all the style information without the actual artwork.

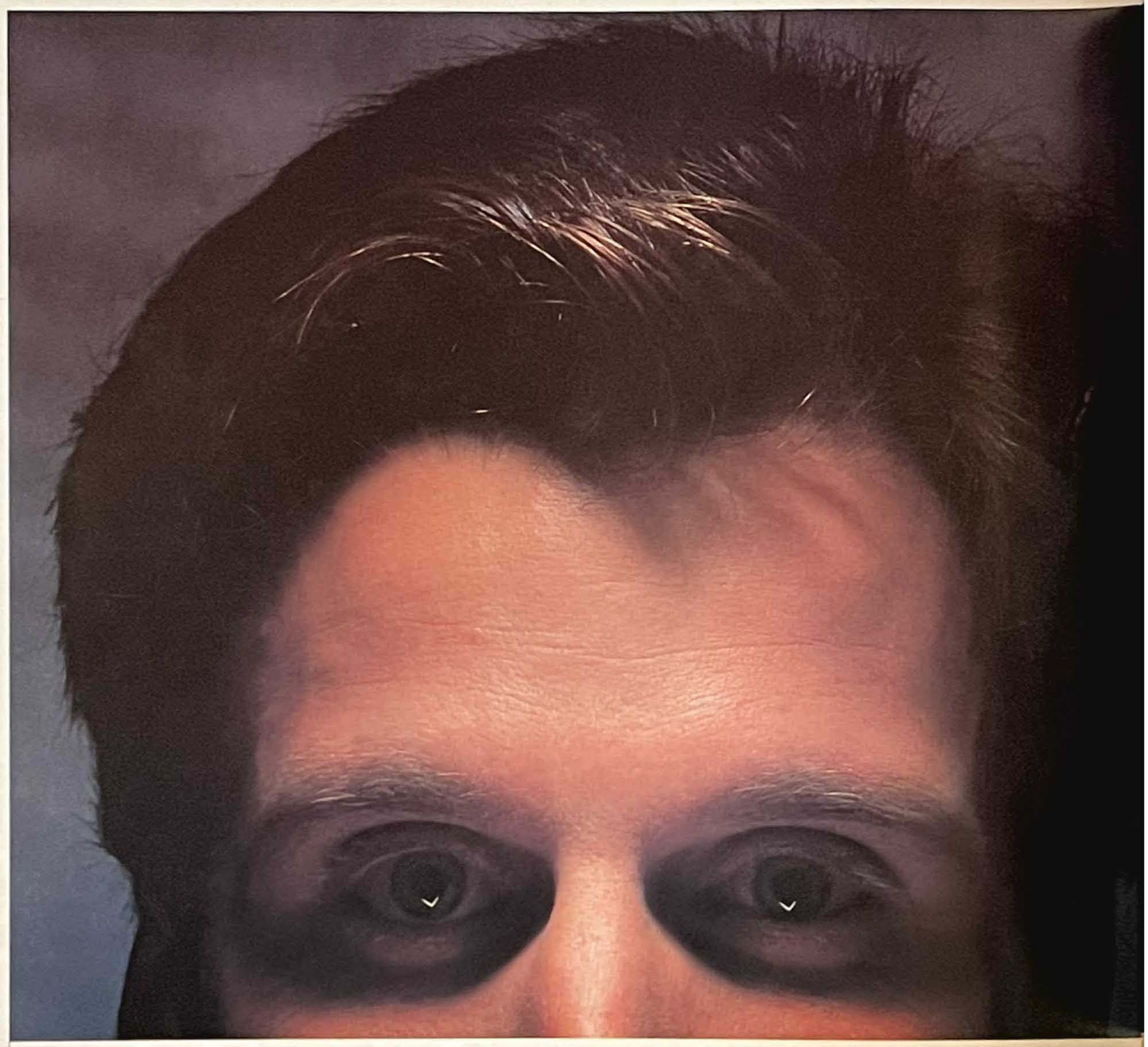
FreeHand 2.0 comes with a set of custom PostScript lines and fills, including some attractive textured fills such as sand and granite. Alas, using these necessitates grappling with the program's least attractive feature, not one, but two proprietary printer preparation files: UserPrep and Advanced UserPrep. Printer preparation files are PostScript dictionaries that the printer uses to interpret the PostScript commands it receives when you print your documents. While most Macintosh applications use Apple's own LaserPrep file, Aldus has marched to a different drummer. PageMaker comes with its own AldusPrep file, and FreeHand 1.0 had a UserPrep file.

Version 2.0's UserPrep is a stripped-down set of routines that take up less valuable printer RAM. Advanced UserPrep contains more definitions for custom fills. FreeHand always uses the file called UserPrep, so to use Advanced UserPrep, you have to rename it. This approach does successfully address a real concern, but we found ourselves wishing that Aldus could have found a more elegant method.

You can directly convert both PICT and Illustrator 1.1 formats to FreeHand, and you can place Encapsulated PostScript, TIFF and MacPaint format documents in your drawing. You also can apply a spot color or change the contrast and brightness of TIFF and paint images using a PageMaker 3.0-style image control dialog box. Importing TIFFs opens up the intriguing possibility of incorporating photo-realistic elements into illustrations.

FreeHand prints spot or process color separations, black-and-white composites, or, if you use a color PostScript printer, color composites. Be forewarned, however, that FreeHand cannot separate PMS-defined graphics or color TIFF images.You can specify the screen frequency and angle of each color separation and whether or not to overprint inks. If you choose not to overprint, FreeHand automatically creates a "knockout" for the background color.

Conclusions. Comparisons between FreeHand 2.0 and Illustrator 88 are inevitable but insidious. Each has its own strengths and weaknesses, but both represent the state of the art in PostScript illustration software. Both have broadly similar features, such as clipping paths and pattern tiles. FreeHand is a little slower than Illustrator 88, although the difference lessens as the complexity of the drawing increases. Its user interface isn't quite as clean and the array of menus, submenus and dialog boxes may seem intimidating at first. But the convenience of layers and an editable Preview mode makes the trade-off worth considering. For type-intensive applications, FreeHand comes out ahead. We suspect that those who can afford it will end up with both Illustrator 88 and FreeHand in their toolbox. □



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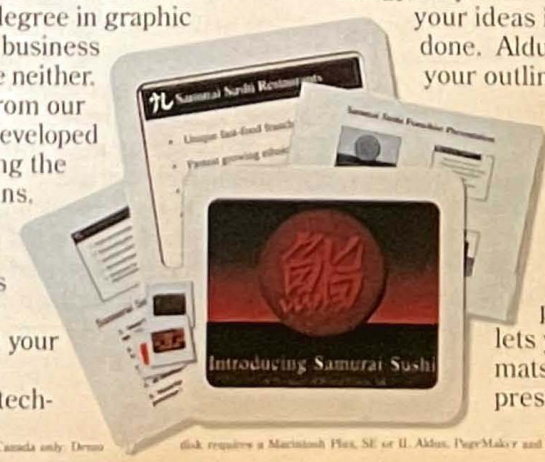

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Continued from Page 44

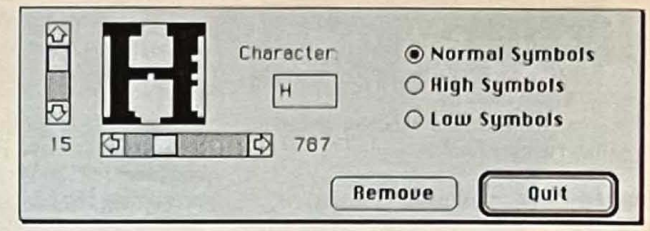
experience this is not always the case.

We encountered documents with which OmniPage did not perform satisfactorily. TextPert and Read-It! successfully read those same documents. At this stage of OCR technology, we feel there are advantages and disadvantages to both automated and trainable systems, much as with automatic and manual transmissions for cars.

Furthermore, while OmniPage requires a Mac II with 4 Mbytes of RAM, both TextPert and Read-It! will work on a Mac Plus. OmniPage currently works only with certain scanners; TextPert and Read-It! work with any Mac-compatible scanner.

Starting right. As you gain experience with these products, the causes of most reading errors will be easier to identify. The most common culprit is the quality of the original or scanned image. A high-quality scanned image is imperative for good results with any OCR product. With Read-It! 2.0 we consistently produced the best quality scans of any OCR product we have tested. While the controls are a little different from those of other products, immediately upon completing a scan a highly magnified view of a portion of the page pops up on screen, allowing the user to judge the quality of the scan. You can actually improve the quality of the original document through judicious use of the scanner. TextPert does not show a highly magnified view of a portion of the page until much later, after the teaching process has begun. If a new scan is necessary, it is a tedious job to go back and start over.

TextPert offers automatic page definition. While we found it was usually necessary to adjust the boundaries, it was a simple matter to do so. Text blocks must be manually identified in Read-It!, but we found this to be an easy chore, the least time-consuming part of the OCR process.



TextPert by CTA allows you to review the actual bit maps stored for each character during the learning process. Errors and distorted characters can be discarded.

Both products allow the user to save formats for scanning material with regular formats. This permits the use of automatic sheet feeders and other forms of batch processing. If you have 2 Mbytes of RAM, Read-It! will work in the background under MultiFinder. Unfortunately, because of the variable placement of headlines and graphics, most newspapers and magazines don't lend themselves to batch processing.

Teaching Mac to read. Both TextPert and Read-It! can be taught to read practically any printed material.

Foreign accents, stylized fonts, including bold fonts and italics, are handled well. Underlining cannot be read by Read-It!, and TextPert doesn't do much better. Both packages will work with font sizes from telephone book-size print (six-point type) to banner headlines.

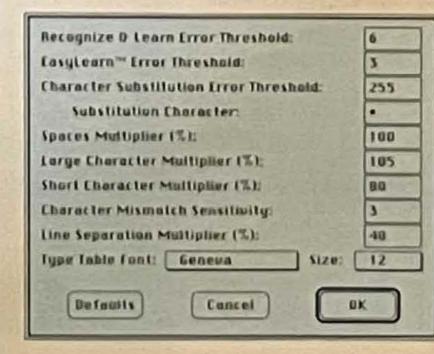
Dramatic progress has been made in the process of teaching these products to recognize a new font. While Read-It!'s manual might be a little over-enthusiastic in claiming that training time might be as little as 15 minutes, sometimes it is not necessary to do any training. Read-It! includes about 40 font tables on its disks. Even if an exact match is not found, a menu choice will cause Read-It! to look for the closest match, and this will provide a head start for training.

TextPert's literature claims a wide range of templates on its disks for our convenience, but we found none in the shrink-wrapped package given us for review. In TextPert, another head start technique is available. Any Macintosh font can be used to start a new font template. If the match is close enough, no training at all is necessary.

Read-It! still offers the classic way to begin building a new font table, in which the software stops on every character and requires the user to confirm its identification. Boredom will soon drive the user to shift to Recognize and Learn, in which the software only stops on those characters it is unsure of. An added bonus to this mode is that Read-It! is actually producing a text version of the scanned document while learning.

TextPert begins training with Teach, akin to Read-It!'s Recognize and Learn. After the user has identified the first few characters

See OCR, next page



Read-It! provides the most elaborate user controls of any OCR product for the Mac. Unfortunately, the manual spends little time on advanced topics, forcing the user to learn by trial and error.

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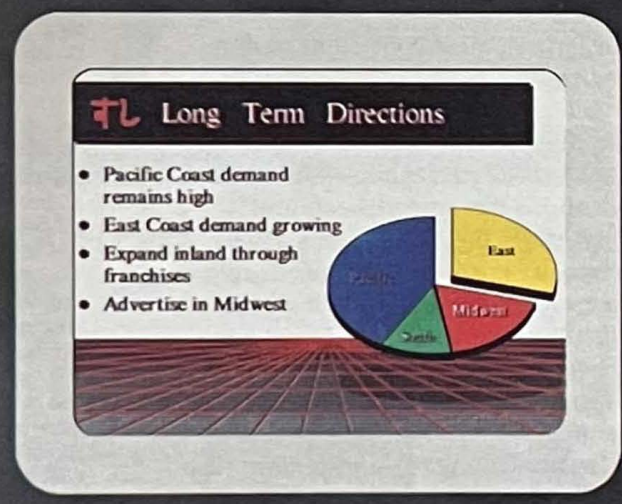

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LIAISON

Continued from Page 42

without modems can share those attached to any Macs running Liaison.

Documentation and support. The tiny 4- by 6-inch Liaison manual concisely explains basic network terminology, the services it provides (and doesn't provide, such as Internet Protocol routing), the various configuration options, and all aspects of use and troubleshooting. However, you will rarely need Liaison's manual, and on-line help is available. Infosphere's technical support was knowledgeable and helpful, although limited to a single toll number that was frequently busy.

Conclusions. In our tests, Liaison worked well with AppleShare and TOPS, over AppleTalk and EtherTalk, and in combination with other networking and bridging products. Although we experienced some problems when testing Version 1.0, they were solved with the 1.01 release, which arrived within a month. The company risked the reputation of vaporware by not shipping its product until it was really reliable, but Infosphere has created a solid product.

Since tracking serial numbers on large networks can be a nuisance, an unserialized site-license version would be helpful. Also, some basic network-management tools would help to round out the package. But these are minor quibbles.

Infosphere's Liaison is inexpensive, easy to set up and transparent in use. Although a dedicated hardware bridge will provide better performance on busy networks, Liaison offers a flexible software solution that can replace hardware bridges for many applications. We recommend it highly. □

Dan Magorian is the Macintosh technical specialist at the computer science center for the University of Maryland at College Park.

OCR

Continued from previous page

for TextPert, it stops less and less often, racing ahead with the reading. Eventually, the user will notice that TextPert is recognizing characters it has never asked the user to identify. There is some intelligence built into the Teach mode, but sometimes it outsmarts itself. In some cases, we found TextPert incorrectly identifying characters we had never identified for it, and it proved difficult to set things right.

Refining the font tables (referred to as templates by CTA) is a matter of judging the quality of the "read," then looking at any problem characters in the character table and throwing out any wrong or distorted character bit maps. One goes back and forth with this process until the font table is as good as it's going to get.

TextPert offers a labor-saving menu choice that allows you to define up to four problem characters that will be the only ones stopped for in the Teach mode. Read-It! allows the user to adjust parameters for such things as recognition confidence and line spacing.

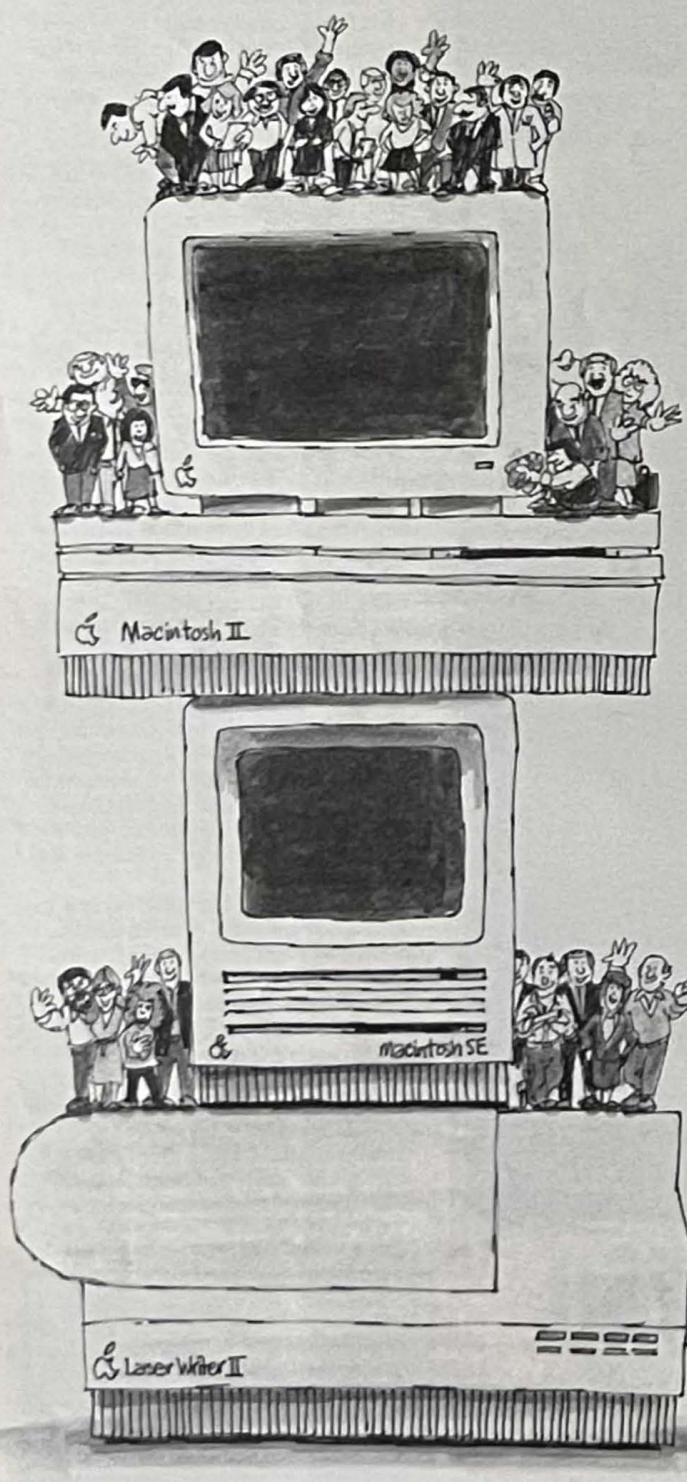
Tech support, manuals and more. TextPert's manual is one of the most attractive we have seen for the Mac. The advice in it is another matter. Early on, one encounters in large, bold-faced type, "1. Plug in your Mac." Then the misinformation begins. First, we are told how to install the copy-protected program on a hard disk; it is not copy-protected. And we are advised to phone Barcelona, Spain, for tech support. (TextPert, while only recently introduced in the United States, has been for sale in Europe since 1987.) Calling the New York office will get you English-speaking tech support.

Read-It!'s manual is very readable and candid. Our principal criticism is that the section on advanced topics is not long enough. Too often the advice is folksy rather than authoritative. Tech support lines, however, are manned by friendly, knowledgeable personnel.

You read it here first. Both CTA and Olduvai made important announcements at the recent Macworld Expo in San Francisco. CTA announced Version 3.0 of TextPert will ship within a month. Principal among the new features is that it will include automatic, as well as manual, font recognition. It will also save monochrome graphics within the OCR translated document. Much formatting can be saved as MacWrite, or Word. Formatting codes can be inserted for interfacing with certain professional typesetting systems.

Olduvai announced that Read-It! Personal will replace Read-It! TS and begin shipping in March. Read-It! Personal will work only with the LightningScan hand-held scanner from ThunderWare. We are eager for an effective OCR system (hardware and software included) for less than $750!

Conclusions. Both Read-It! and TextPert offer excellent functionality and their new versions are exciting, especially Read-It! Personal. For those involved with batch OCR work, teachable systems are probably best, and Read-It! and TextPert would be better choices than OmniPage. They use different teaching methods, each of which has its strong points. Read-It! gives better scans, but TextPert has automatic page definition. Read-It! can also operate in the background under MultiFinder. On the other hand, TextPert's future support of automatic character recognition à la OmniPage is intriguing. We'll keep you posted as developments continue on the OCR front. □



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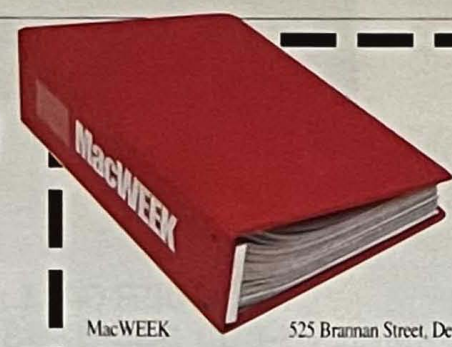

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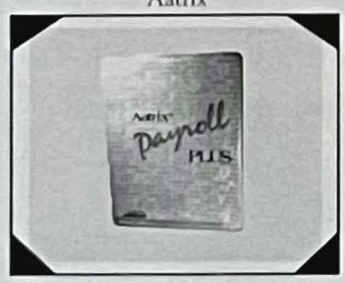

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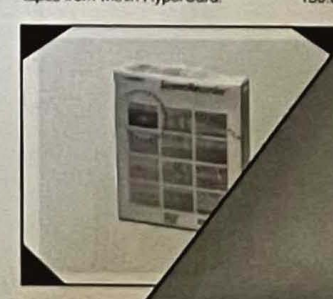

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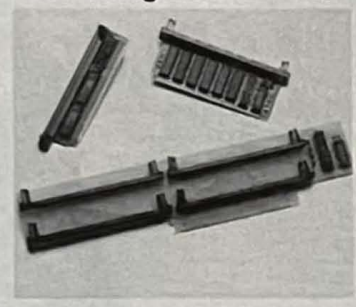

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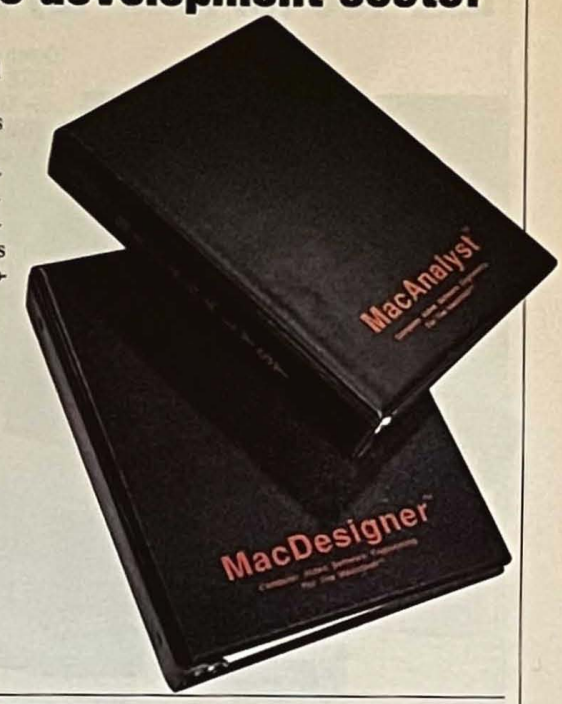

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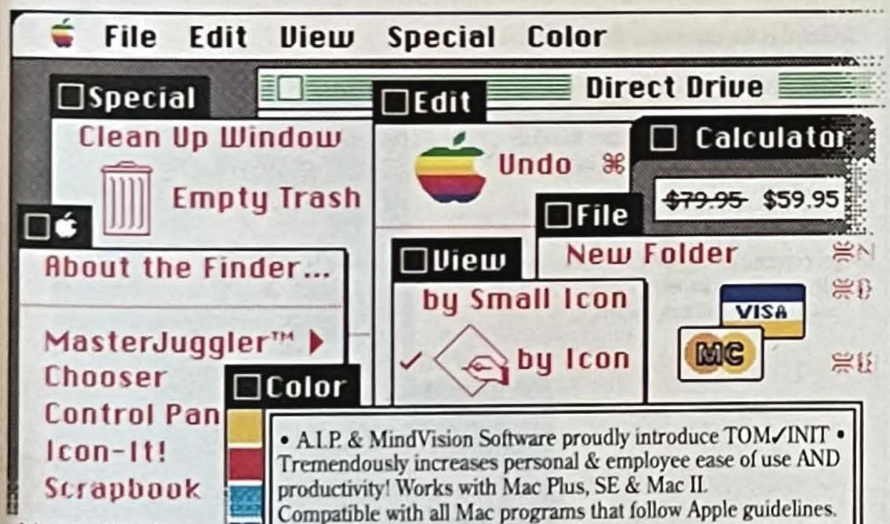

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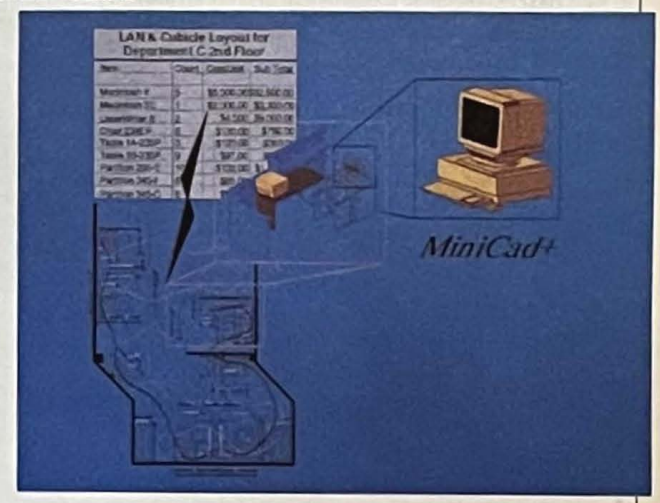

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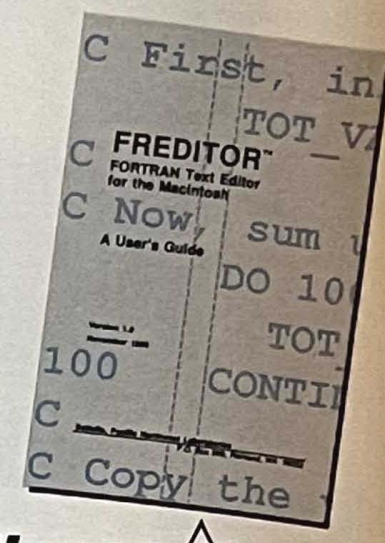

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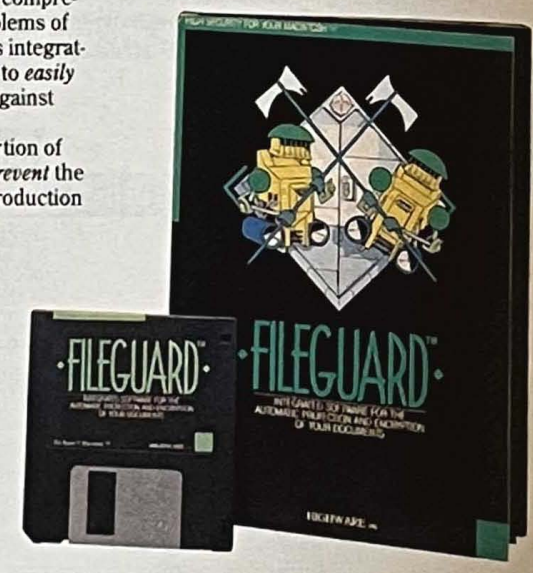

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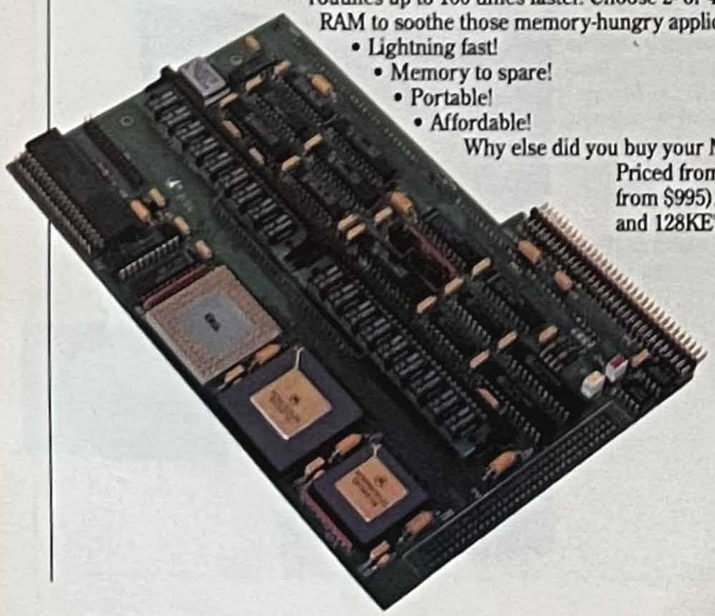

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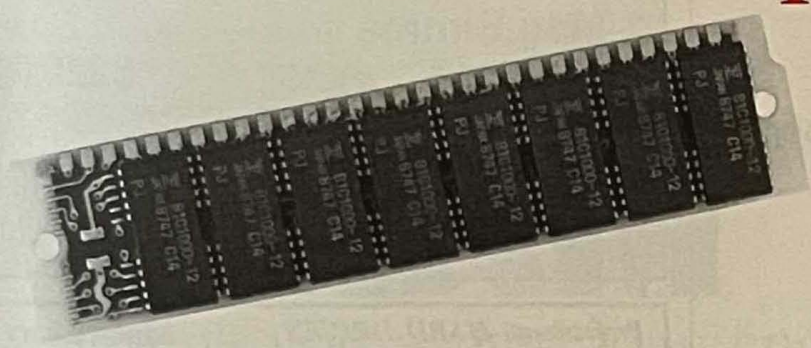

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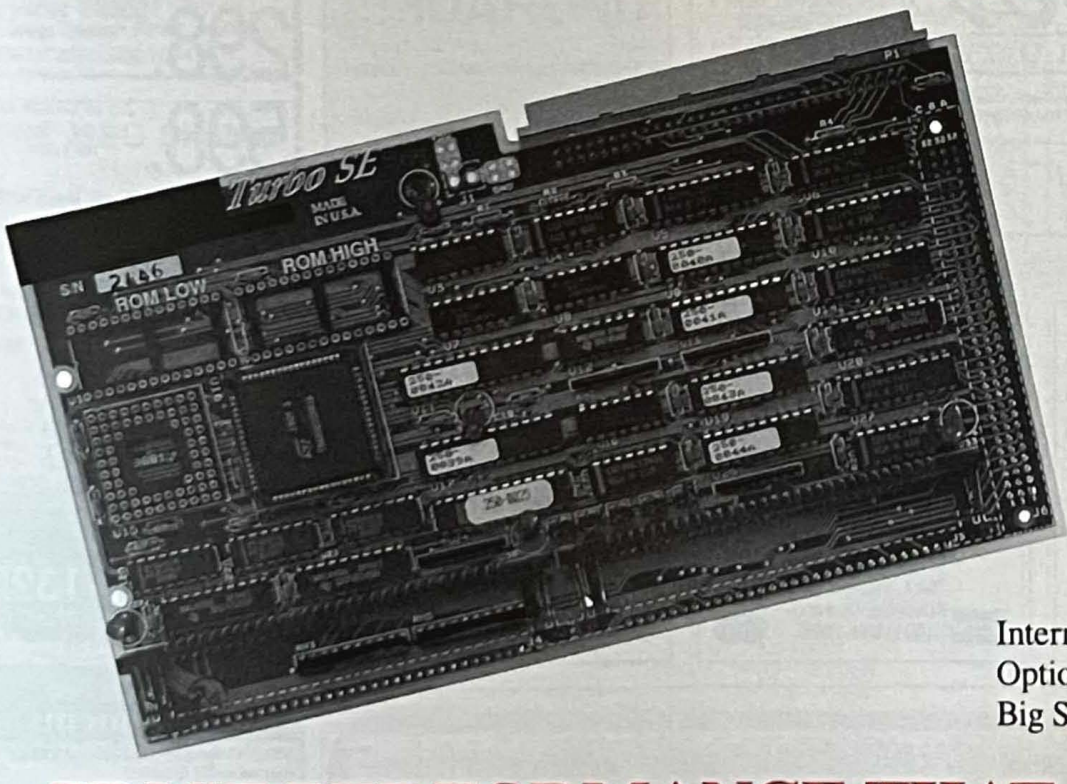

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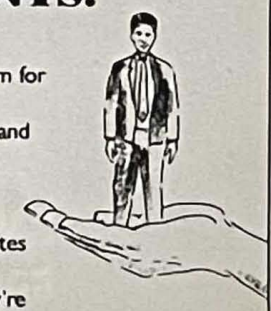

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Apple lays an earnings egg

Stockholders and investors blame management

BY JON SWARTZ

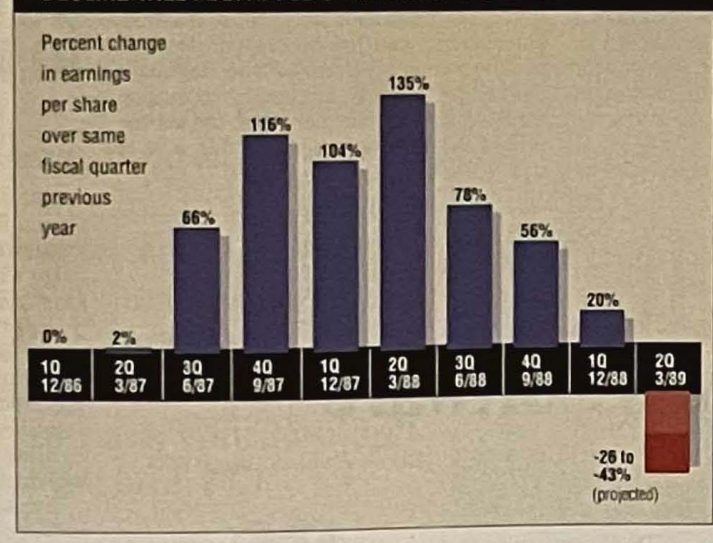
CUPERTINO, Calif. — With the news last month that second-quarter earnings could plunge as much as 43 percent below results of a year ago, Apple's stock crumbled, and investors and analysts called into question the wisdom of the company's recent financial predictions and reorganizations.

▸ While Apple CEO John Sculley contends that the earnings should recover in the third quarter, shock waves are still rippling through the board room at the company's Cupertino, Calif., headquarters. A disenchanted stockholder has filed a class action suit against the company for failing to disclose the disappointing financial results in a timely manner (see related story, Page 1).

▸ Compared with 61 cents per share for the same period last year, Apple now predicts earnings for the quarter ending March 30 this year will be in the range of 35 cents to 45 cents per share. The company also said its profit margin will probably drop from 49.1 percent to about 48 percent.

▸ "A number of investors were shocked and raised the issue of credibility more than once," said Doug Van Dorsten, an analyst at Shearson Lehman Hutton in Larkspur, Calif. "Just a few weeks ago, Apple was talking about a profit of 65 cents a share for the second quarter."

DECLINE WILL MAR APPLE'S STREAK OF INCREASES



Apple officials attribute the tumble to expensive dynamic RAM bought on the spot market during the chip shortage last year.

Sculley told computer analysts last month that Apple paid up to twice the market price for more than half of its DRAM purchases. Consequently, Apple's purchase of the scarce chips cost it $27 million more than it should have.

According to Clifford Wildes, president of Branford, Conn.-based Microtech International Inc., a Macintosh SIMM module and DRAM supplier, Apple paid up to $38 for 1-Mbit chips last summer. The chips now sell for as low as $17 each.

"I'm in total shock. Apple has always been astute about buying product at the right price," he said. "Apollo and Sun aren't having the same problems with DRAM. It cuts much deeper than that."

To nullify the more costly chips, Apple raised prices between 12 percent and 15 percent. The computer maker reduced its prices last month in response to slow sales of fully configured high-end machines.

"Decisions were made that, in hindsight, we would have changed," said Albert Eisenstat, Apple senior vice president. "We suffered a double whammy: DRAM prices dropped more quickly than we expected, and customers are buying scaled-down machines and equipping them with added DRAM or external disk drives [from third parties]."

Several Mac volume buyers contacted said they bought scaled-down Macintoshes and added DRAM to sidestep the price increases.

"Since the price increases in September, we've been buying DRAM from third parties and will continue to do so," said Phil Reed, information center analyst at Clark Equipment, a forklift manufacturer based in Lexington, Ky. "I don't know what led to the price increases, but we're saving $500 to $1,000 a machine and plan to stick with our strategy."

As sharp as the predicted decline appears, Sculley told analysts that the company still expects revenue growth for the fiscal year to exceed 30 percent.

If Apple's projections come true, the decline would snap a streak of 14 straight quarters of earnings increases. Sculley, however, has told analysts that Apple has trimmed $50 million in expenses this fiscal year and that the earnings decline should last just one quarter.

Apple's belt-tightening will include a slowdown in hiring, according to Eisenstat. The company is expected to add 500 employees, instead of 2,000, to its 10,000-person work force this year. Several administrative projects have also been put on hold, and discretionary spending will be closely monitored. □

Milestones to lower earnings

- **Summer 1988**
  Apple buys DRAM at inflated spot market prices
- **Sept. 12, 1988**
  Apple raises prices on selected models
- **Jan. 17, 1989**
  Apple lowers prices and announces declining margins for the first fiscal quarter
- **Jan. 27, 1989**
  Apple predicts first earnings decreases in 14 consecutive quarters

Frenzied Apple trading

NEW YORK — Apple's projected second-quarter earnings decline triggered a record-shattering trading frenzy on Wall Street.

A record 18.9 million shares, or 15 percent of all Apple shares outstanding, changed hands in NASDAQ over-the-counter trading on the day of Apple's announcement, eclipsing the previous single-day mark of 16.5 million shares set in 1983 by MCI Communications Corp. of Washington, D.C. According to reports, more than 11 million shares were traded in the first hour after the announcement.

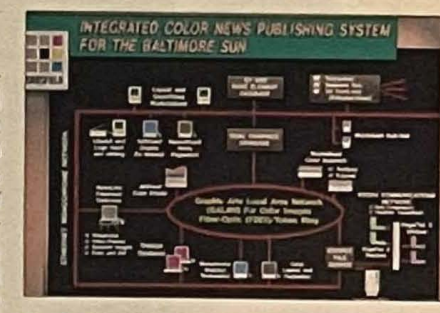
Apple stock lost some 10 percent of its value in one day, dropping $4.12 to $37.63 per share. Most of the sellers, analysts said, were institutional investors.

As of last Thursday, Apple stock stood at $39.63 per share.

As a result of the news, several analysts have lowered their estimates of Apple earnings for fiscal 1989 from $3.75 to between $3.20 to $3.40. — *By Jon Swartz*

Crosfield, Baltimore Sun partners in publishing

BY ROBERT VIRKUS



The Baltimore Sun's system will utilize Macs, VAXes and more for a fully integrated design.

NEW YORK — Crosfield Electronics Inc. and The Baltimore Sun last month announced a $13.5 million strategic alliance aimed at development of an integrated newspaper publishing system, one in which the Macintosh will play a large and growing role. When completed, the system will provide electronic integration of display and classified advertising, editorial, layout and color.

"We are entering into a long-term relationship with The Baltimore Sun, a recognized and respected company owned by the Times Mirror Corp.," said Mel Ettinger, president of Crosfield. "This is a multiphase contract that will provide The Baltimore Sun with a pre-press system, which should set the tone for newspaper systems for the next decade."

Phase 1, now under way, integrates news and advertising composition functions. The Baltimore Sun's existing Macintoshes will be integrated with Crosfield's AdWizard workstations, based on the VAXstation 3200 from Digital Equipment Corp. AdWizard's interface to the Mac converts MacDraw or PICT format files for use in display ads.

See CROSFIELD, next page

BUSINESS BRIEFS

Iomega licenses floptical technology

ROY, Utah — Iomega Corp., manufacturer of removable Bernoulli data storage products, has signed a non-exclusive agreement to license "floptical" data recording technology developed by Insite Peripherals of Santa Clara, Calif.

Insite's technology lets users store up to 20 Mbytes of data on 3.5-inch high-density floppy disks. The company announced a Mac- and IBM PC-compatible floptical SCSI disk drive last August.

According to Tony Radman, senior vice president of Iomega, the company is currently evaluating the technology with an option to second-source floptical products under the Iomega name. □

Apple adds EDS to reseller roster

CUPERTINO, Calif. — Adding to its growing list of non-storefront resellers, Apple recently signed a reseller agreement that will let Electronic Data Systems Corp. of Dallas sell Apple products to national accounts.

EDS, a wholly owned subsidiary of General Motors, is a worldwide leader in systems integration and communications services.

According to Apple spokeswoman Patty Tulloch, the agreement authorizes EDS to sell an array of Macintosh computers and Apple network connectivity products. Tulloch said EDS will open satellite sales offices for Apple products in Dallas, Detroit, San Francisco and Los Angeles.

Details of the agreement were not disclosed.

"Our agreement [with Apple] is similar to those we have with other vendors," said Roger Still, EDS spokesman. "It allows us access to sell more equipment and to service our customers better. It's a business deal that's good for both parties." □

PostScript standards group set

VISTA, Calif. — Concerned that PostScript is eroding as a standard, an ad hoc industry group is taking steps to form an organization that will help define a standard page-description language based on PostScript.

The group, called the SPS Association, will hold an organizing meeting during the Electronic Printing Systems/Professional Electronic Printing (EPS/PEP) conference in Orlando, Fla., Feb. 12-16.

"There is a certain amount of confusion over PostScript in the market place because there is not a fully documented Adobe standard," said Tom Dunn, president of Dunn Technology Inc., the sponsor of the EPS/PEP conference.

For more information, contact Tom Dunn, 1855 E. Vista Way, Vista, Calif. 92084; (619) 758-5401. □

CROSFIELD

Continued from previous page

The configuration features a Mac subnet for creation of advertising and editorial line art. Also included in Phase 1 will be Crosfield's NewsLine electronic picture desk terminals, input scanners, file servers and monochrome workstations, connected via an Ethernet network to a graphics database.

Phase 2 will add Crosfield's high-resolution color equipment, including the Macintosh II-based Crosfield LightSpeed design system, connected to an integrated database, and to GALAN (graphic arts local-area network), Crosfield's high-speed LAN. GALAN uses high-bandwidth fiber-optic cabling and a token-ring topology to ensure rapid transmission of high-resolution graphics.

The Mac-based LightSpeed Color Layout System allows designers to experiment with color pages. The final designs will be transferred electronically to the Crosfield Studio system for final production.

Phase 3 will include the development of a local facsimile system based on Crosfield's Pagefax 2 facsimile equipment. The system will be linked to a Baltimore Sun production facility through a fiber-optic network for transmitting full-page negatives.

The fourth and final phase, expected to be completed by 1992, will consist of editorial design and page information control systems intended to completely integrate pre-press and communications operations. These systems will be built around a Sybase database running on a DEC VAX host.

"This program represents the culmination of several years' study by The Baltimore Sun to design a comprehensive electronic solution to meet the need for pre-press automation," said Jim McCrystal, manager of information systems for The Baltimore Sun. Frank Edwards, mechanical production manager for The Baltimore Sun, termed the project as "not a lot of high risk, but a lot of hard work." □

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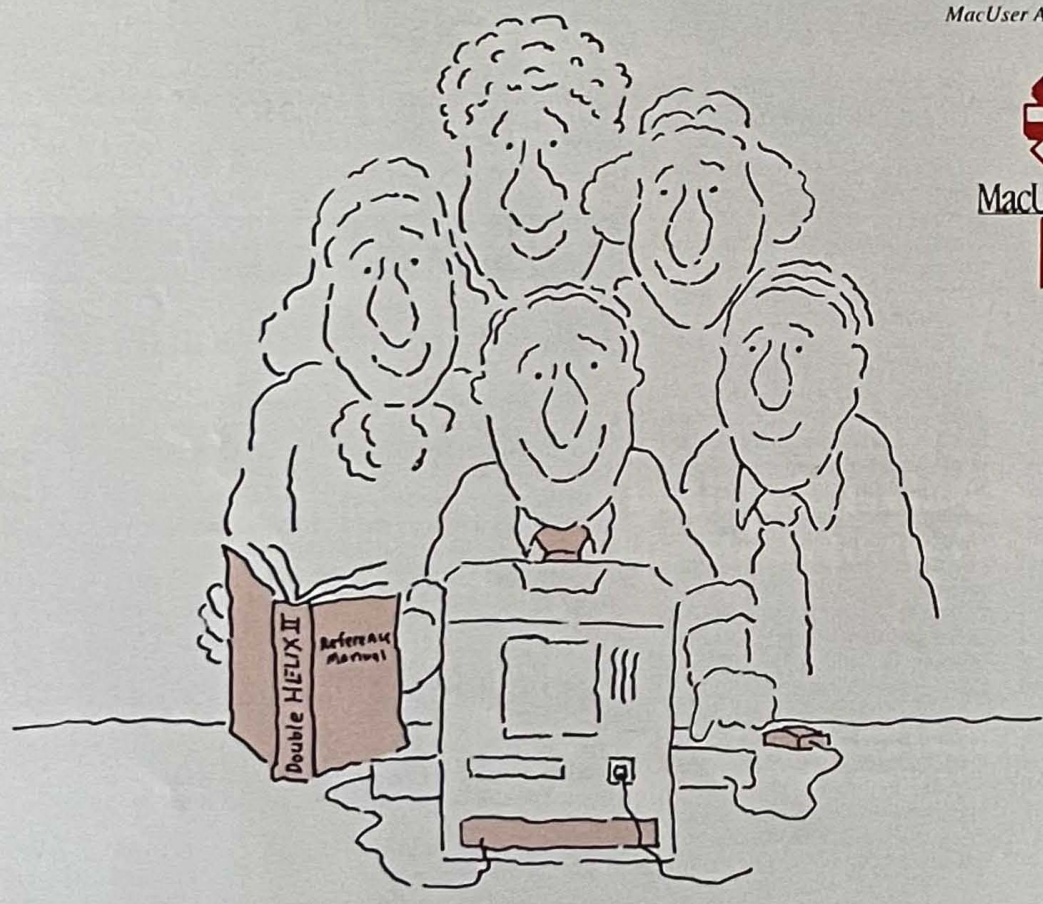

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Double Helix II is powerful multi-purpose software designed to help with your every day tasks in conjunction with your Macintosh personal computer.

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Review after review has named Double Helix II the one database that's fastest, easiest, and most enjoyable to use.

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Microsoft, Apple seek judge's ruling in round one

BY EMILY BROWER

SAN FRANCISCO, Calif. — Apple and Microsoft filed motions last Friday requesting a summary judgment from presiding federal Judge William Schwarzer for the first phase of its copyright dispute with Microsoft and Hewlett-Packard.

The phase one trial concerns the Nov. 22, 1985, license agreement between Apple and Microsoft. Apple claims that Microsoft's Windows Version 2.03 is not covered by this licensing agreement and infringes on Apple's copyrights for the Macintosh interface.

Exhibits and testimony filed with Apple's motion reveal some of the history leading up to the disputed license agreement, including attempts by Microsoft Chairman Bill Gates to persuade John Sculley to license the Macintosh operating system. In the summer of 1985, Gates wrote a letter and a memo to Sculley detailing business reasons for licensing the Mac OS and urged him to consider companies like AT&T, Northern Telecom and Motorola.

The summary judgment motion asks that the case be decided by the judge without a jury trial. Schwarzer has set the summary judgment hearing for March 17, exactly one year after Apple filed its suit. □

Echelon's LON project attracts major investors

BY JON SWARTZ

LOS GATOS, Calif. — An exotic technology and high-profile management are proving to be very lucrative for Echelon.

The Los Gatos, Calif., company, which is developing enigmatic electronic communication systems called local operating networks, or LONs, last week announced the completion of $25 million in first-round financing, including investments from Apple, 3Com Corp. and a dozen investment firms.

So far the 3-year-old company has created as much interest with its personnel as with its products. Apple co-founder A.C. "Mike" Markkula is a major investor and chairman of Echelon; Rolm Corp. founder M. Kenneth Oshman is Echelon's president and CEO; and Wendell Sander, an Echelon board member, designed the Apple III and the disk-controller chip used in the Apple II and Macintosh lines.

Apple, impressed with that lineup and the potential of LONs, has invested $233,000 in Echelon, with an option for another $450,000.

Oshman said the financing will go toward R&D of LONs, which he predicts will mushroom into a $100 billion market.

Echelon plans to license LON technology to other companies. The "distributed intelligence system" is based on customized computer chips and an innovative technology for transmitting data over existing wires, infrared waves and radio frequencies. The company's first products are expected to ship this year. □

Don't Trust Your Data to Anyone Else

The Infinity 40 Turbo from PLI...
The removable Winchester cartridge is one of the most exciting advances in data storage technology this decade, but not everyone has mastered it. PLI has been in the drive business since 1985, was the first to offer reliable 44Mb removable cartridge drives and is the only company to offer near zero access times. PLI knows removable cartridge drives better than anybody, and when it comes to your data, you shouldn't settle for anyone but the best. PLI.

With PLI's Infinity 40 Turbo you get the fastest possible performance, unlimited storage, IBM compatibility and valuable software (including TurboCache, Turbo Spool, TurboOptimizer and TurboBack), plus PLI's experience and reliability.

You also get something even more important, peace of mind.

Software that Accelerates

TurboCache
Near zero access times make your drive blisteringly fast, while using your Mac's memory with almost 100% effciency.

TurboSpool
Lightning-fast spooling prints all of your files, even PageMaker documents, quickly and safely to any laser printer on a network while you work.

TurboBack
The easiest way to make fast and reliable backups; your data will never be vulnerable again.

TurboOptimizer
Maintain peak drive performance. Defragment your drive in under five minutes, or optimize it for extra speed.

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Demand for Mac-trained temp workers on the rise

BY ROGER KARRAKER

OAKLAND, Calif. — The demand for Mac-trained temporary office workers is rising quickly nationwide, according to Kelly Temporary Services (formerly Kelly Girl Inc.), the nation's oldest and largest temporary services agency.

A threefold increase in demand in the San Francisco Bay area is leading the Mac boom. To meet the need at its 20 Bay area branches, Kelly last year established a regional Mac testing, training and support program, which may serve as a model for Kelly's 750 branches nationwide.

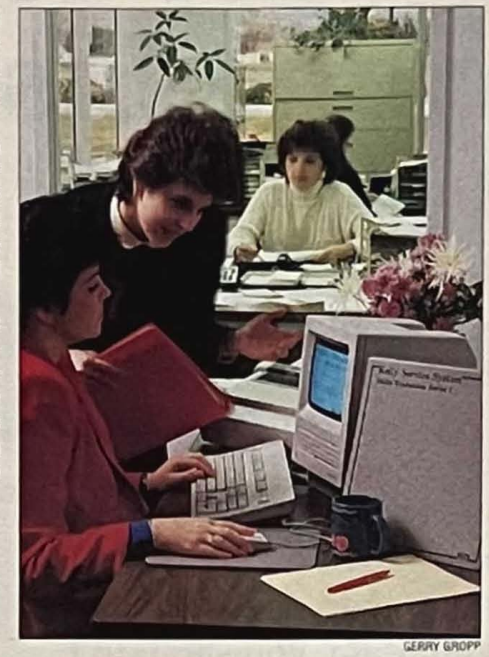
"We've documented a tremendous growth in requests among our major accounts — Fortune 500 firms and the largest 100 local firms," said Kate Wiley, office automation specialist at Kelly's Oakland regional office.

"We probably get 150 to 200 requests a week for Macintosh-trained temps. A year ago it was maybe 50 to 60 requests per week."

The biggest demand for Mac temporaries is for operators trained to use Microsoft Word, followed by Excel, MacWrite, FileMaker, PageMaker, MacDraw, MacPaint and SuperPaint, Wiley said. At least 10 percent of all requests for word processing now are for workers trained to use Word, Wiley said.

In the fourth quarter of 1988, Kelly tested and trained 325 temporary employees on several Macintosh programs at six Bay area locations.

Why the sudden surge in job orders for Mac workers? "The Mac has developed its level of credibility in the business world," said Wiley. "Increased compatibility between the Mac and IBM is making it easier for corporations to use both. We have some companies that are all-Mac, but a very large group are from both worlds." □



GERRY GROPP

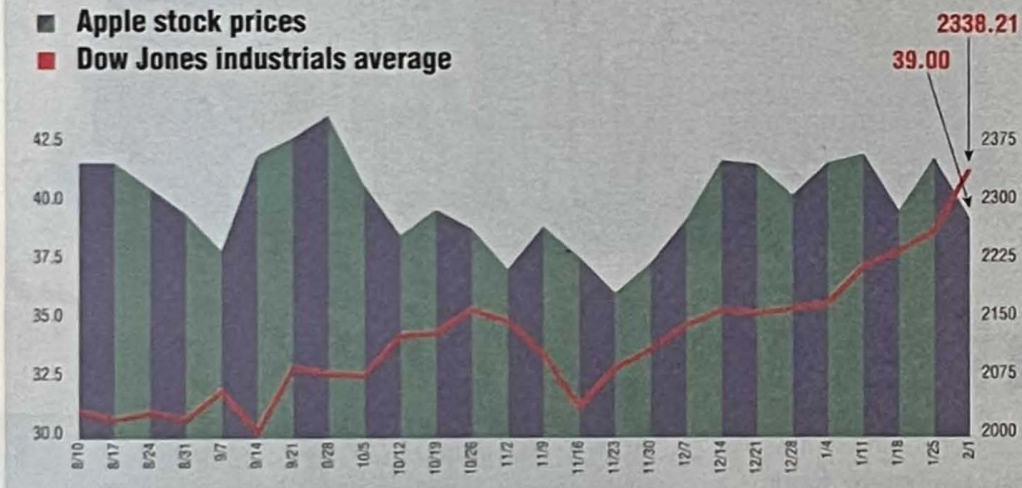
Kelly has set up self-training programs for temporary workers to learn Mac skills.

Apple inks deal with Mentor

BEAVERTON, Ore. — Apple has turned to a system based on Apollo workstations to meet its electronic design needs. Mentor Graphics, the worldwide leader in field, said last week that Apple has placed an order worth "substantially over $5 million" for Mentor systems that will be used for schematic capture and simulation, concurrent fault simulation and printed circuit board layout. In addition to the Apollo hardware and its own software, Mentor will provide training and on-site consultation. The Beaverton, Ore., company will also help Apple transfer its design database from its current system, which is based on Sun Microsystems hardware. □

MARKETWEEK

STOCKWATCH



Apple stock dips 6.02 percent to close at $39 per share

For the second consecutive week, Apple presented shareholders with troubling news as it announced that earnings for its second quarter, ending March 30, would range from 35 cents to 45 cents a share, compared with 61 cents a year ago. The previous week, Apple fell after reports of dwindling profit margins and price cuts on some models.

As a result of last week's estimates, Apple plunged 6.02 percent en route to a Wednesday close of $39 a share. The stock's 52-week low is $35.50.

Other high-tech concerns, however, were undaunted by Apple's retreat. Hard drive maker Seagate climbed 12.89 percent after it forecast that its gross margins would widen to 20 percent over the next several quarters.

Other strong gainers include Microsoft, up 11.79 percent, and Sun Microsystems, up 7.35 percent.

Macintosh-related stocks

		CLOSING PRICE 1/25/89	CLOSING PRICE 2/1/89	PERCENT CHANGE IN PERIOD	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES	Adobe Systems	25.00	23.00	-8.00	24	26.00	11.75
	Aldus Corp.	22.25	23.50	5.62	23	23.50	13.50
	Apple	**41.50**	**39.00**	**-6.02**	**12**	**47.75**	**35.50**
	Ashton-Tate	20.75	21.75	4.82	12	31.25	20.00
	Businessland	13.63	13.63	0.00	14	15.00	7.63
	Microsoft Corp.	53.00	59.25	11.79	22	70.50	45.25
	Motorola Corp.	43.75	45.25	3.43	13	54.63	35.88
	QMS Inc.	8.88	8.88	0.00	—	12.25	6.00
	Seagate	10.63	12.00	12.89	52	23.38	6.50
	3COM Corp.	23.38	25.38	8.55	25	25.30	15.63
INDUSTRY INDICATORS	Digital Equipment	111.63	119.75	7.27	13	127.38	86.38
	IBM	123.25	129.50	5.07	13	130.88	104.50
	Sun Microsystems	18.63	20.00	7.35	19	20.38	13.00

S=Reflected stock split *D=Deficit*

Compiled by Nordby International Inc. Boulder, Colo.

MARKETWATCH

Mac-only networks still dominate, but not by much

Now that 1988, Apple's Year of Connectivity, has passed, how has Mac connectivity evolved at the large Macintosh sites that are the prime targets for connectivity products? Our survey of MacWEEK subscribers who have purchase influence for connectivity products at 512 very large sites found that 92 percent of them have Macs networked, and that at these sites 56 percent of the Macs are connected to a network.

While these large sites averaged 1,049 Macs, they have more PS/2s, IBM PCs and compatibles (a total of 1,482) than Macs. However, only 45 percent of these are networked.

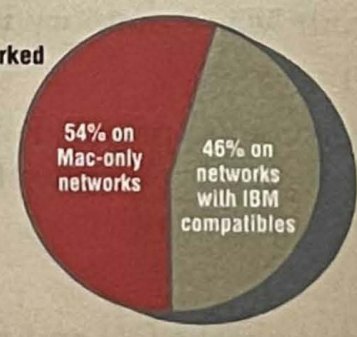
Just over half (54 percent) of the Macs connected to networks are on a Mac-only network and the rest (46 percent) are on networks that include IBM PCs or compatibles.

Interestingly, at these large Mac sites more than half (54 percent) of the networked IBM PC compatibles (including PS/2s) are on networks that include Macs.

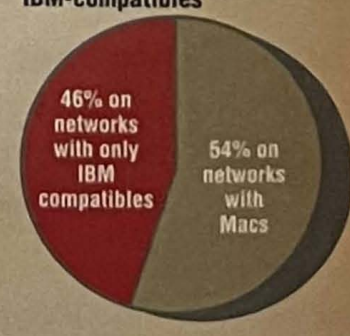
The table below shows the percentage of sites using each brand of networking software.

— By Griffin Dix

Networked Macs



Networked IBM-compatibles



Networking software used with Macs*

AppleShare	86%
TOPS	64%
3Com 3+	23%
MacServe	18%
Novell	5%
Other	18%
Don't know	3%

*Multiple answers

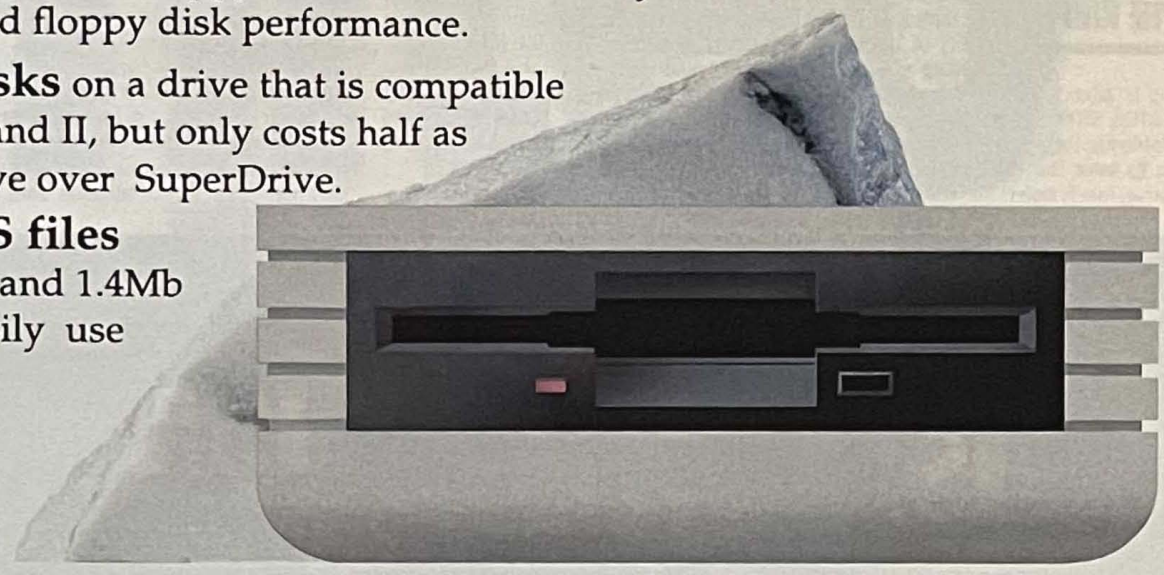
Base: Have Macs networked

Source: Evans Research

Tomorrow's Upgrade Today

Apple has made it clear that the 1.4Mb SuperDrive will be included in their new, high-end machines, but has yet to offer an upgrade. PLI has an upgrade path for everyone, today. The TurboFloppy 1.4 from PLI gives you 1.4Mb Macintosh floppy diskettes, connectivity with MS/DOS and high-speed floppy disk performance.

Format 1.4Mb floppy disks on a drive that is compatible with the Macintosh Plus, SE, and II, but only costs half as much as the competition. Move over SuperDrive.



Read and write MS/DOS files with your Macintosh on 720k and 1.4Mb diskettes. Finally, you can easily use data from IBM machines and compatibles without leaving your Macintosh. Just plug the drive in, insert a disk and you're on your way.

Fast floppy storage is at your fingertips because PLI's TurboFloppy 1.4 uses the SCSI port to transfer data. We even include TurboCache which reduces the access time of your drive to near zero and TurboBack so that you can use your new drive to make fast, easy and economical backups of your data.

TurboFloppy 1.4 is the upgrade you can afford. It requires no special chips or interfaces and, with an introductory price of $395, you can upgrade today and be ready for the future of Macintosh computing.

The Best Drives Imaginable

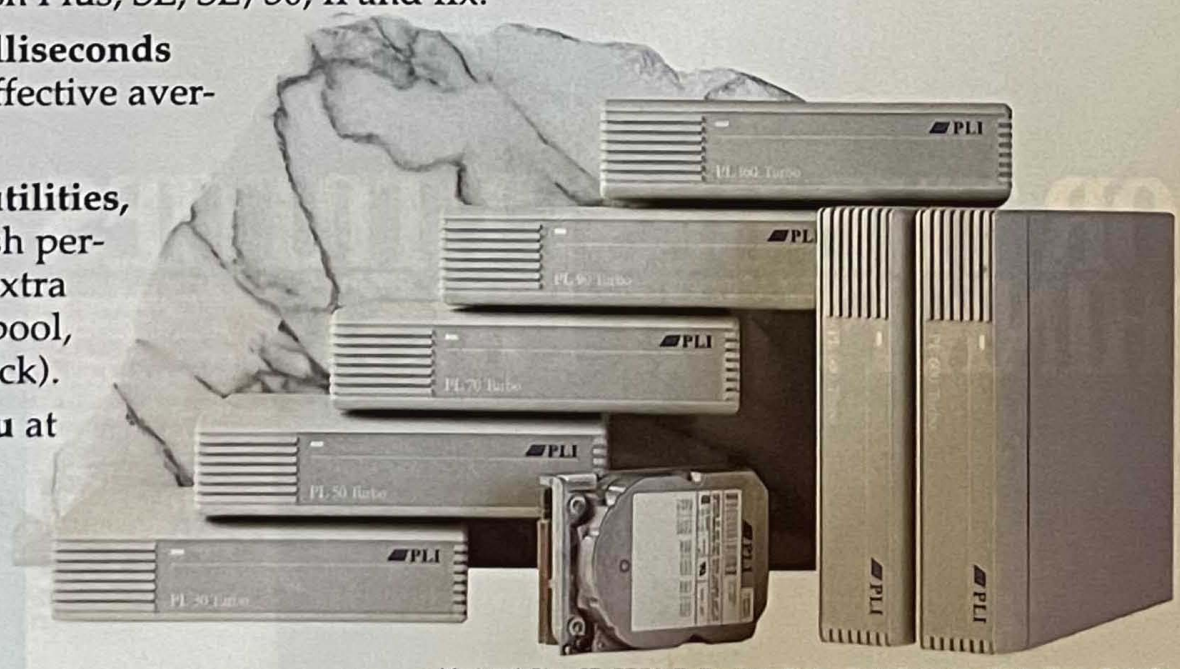
The PLI Turbo Hard Disk Drives...

Imagine 27 different hard drives, internal and external, with capacities from 20Mb all the way up to 638Mb, for the Macintosh Plus, SE, SE/30, II and IIx.

Imagine speeds below 10 milliseconds and software that drops the effective average access times to near zero.

And imagine four valuable utilities, software that boosts Macintosh performance are included at no extra charge, (TurboCache, TurboSpool, TurboOptimizer and TurboBack).

All of this is available for you at affordable prices from PLI, a company that has been making high-quality SCSI drives for the Macintosh since 1985. **Imagine that.**



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Apple ponders PC Convertible

To absolutely no one's surprise, the status of the Mac laptop is the subject of intense infighting at Apple. One group is advocating the release of the current CMOS 68000 version, while another group is lobbying for a more powerful 68030 version. In its favor, the '030 version is lighter and, of course, much faster.

The scuttlebutt is that one camp is committed to getting the laptop out this summer, maybe even before the Boston Macworld Expo in August. The opposing clique, fearful of unflattering comparisons to the IBM PC Convertible, would rather wait until the '030 version is ready and release a real killer product. Apparently, personnel are being pulled from the 68000 project to work on the '030 effort, and this, too, is the source of some tension.

On a positive note, Hosiden, primary supplier of the laptop's active matrix display, is rumored to have delivered 3,000 units to Apple in January. The contract between the two parties calls for the delivery of 10,000 displays in July. Just in time for Boston?

Meanwhile, Four Square, the high-powered new modular Mac with digital signal processing, circuitry for processor-to-processor communications and built-in Ethernet, will require a major operating system upgrade. This may delay its introduction until the end of the year even though Four Square prototype boards were up and running at Apple as early as last November.

CD six-pack. Does anyone still remember Apple's CD-ROM drive, the CD SC? Apple apparently does. Determined to make a success of the product despite the drought of commercial CD-ROM discs for the Mac, especially compared with what's available in DOS High-Sierra format, Apple is actively promoting third-party development.

One part of the strategy is known informally as the "six-pack" program. Dealers will be able to purchase the six-pack, consisting of five to seven commercial discs retailing for $50 to $70 each, for use as a sales aid in moving the high-margin (for Apple, anyway) CD SC. Early contenders for inclusion in the six-pack promotion include Activision Entertainment's Manhole and an unnamed sound resource disk aimed at the desktop presentation market.

The plot thickens. In a plot twist worthy of Dynasty, Aba Software has again disappeared. It appears that the original reports that the investors had gotten cold feet were at least partially correct. The major investor was none other than Aba President Michael Roca's father, who is rumored to have recently sold a major newspaper in Puerto Rico.

When the Knife learned last week that the company had stopped answering its phones, he decided to drop by Aba's Malvern, Pa., office for an on-site investigation. He was surprised to see that the doors were locked and the office apparently abandoned, save for a lone Mac SE and a considerable quantity of shrink-wrapped Draw It Again, Sam packages.

Somewhat deflated by the Pennsylvania experience, the Knife dropped by the Kansas offices of Informix to check on the status of WingZ. After graciously accepting what must be his fourth flight bag from the front desk, he was surprised to be assured by parties who should know that the WingZ "golden master" was at the duplicator as they spoke. Shipments are expected to begin this week or next week.

Watch this printer. Reports from the Far East indicate that a Japanese company known for its printers, among many other products, is developing a color printer specifically designed for the Mac Plus and the Mac SE. While no official announcement date has been set, executives in the company are aiming at a retail price of about $1,000.

AST Research, member of the first wave of vendors offering large-capacity storage solutions for the Mac and developer of the first Intel 80286 coprocessor board for the Mac II, is rumored to be dissatisfied with the market performance of its Mac products. Sources claim that AST is considering shopping around the Mac division in search of interested potential buyers. Its hot NuView video capture board should considerably sweeten any deal.

Daystar Digital and Dove will soon find the market for 33-MHz '030 accelerator boards for the Mac II and IIx a little more crowded. Irwin International is set to begin marketing MacPeak's new 33-MHz 68030 board.

One of the best-kept secrets of last month's San Francisco Macworld Expo is a foiled theft. Some vendors returned home from the expo to find that their hardware boxes were several pounds lighter. Officials state that two dollies stacked with purloined equipment were discovered shortly after the show closed. At press time no suspects had been arrested, although San Francisco's finest are working on it. If your company was hit, contact Andrew Bartlett & Associates at (703) 550-8503. □

• • •

Don't let some British princess distract you from the real business at hand: trading insider information with Mac the Knife for a MacWEEK mug. Contact the Knife at (415) 882-7370 or MCI (MactheKnife).

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1ST. The new Suitcase II. First in utility sales from the moment it was introduced.

1ST. FastBack. First in speed among all Macintosh backup programs.

1ST. Pyro! First in screen saving entertainment.

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SUITCASE II is the perfect utility for desktop publishers. It now allows unlimited access to fonts, desk accessories, FKEYs and sounds. Plus, now you can display fonts in their own typefaces right in the menu.

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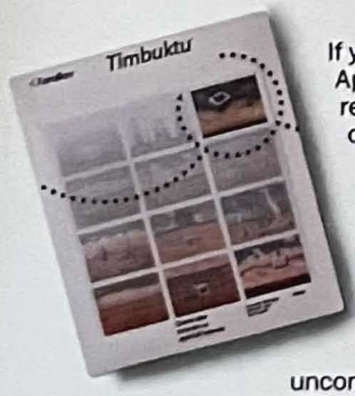

If your business is using AppleTalk networks, then you're ready for the next big advance in office communications.

Introducing Timbuktu, the new application for your network that lets you access and share resources. It's just what you'd expect from the people who brought you the PhoneNET System.

Granted, the name is a little unconventional. But the time and money Timbuktu saves will appeal to even the most conservative minds.

Install Timbuktu on each Macintosh, and everyone on the network can access other Macintoshes, share screens, and control the operation of each other's computers. In fact, you can access your own computer from another computer on the network. (Our companion product, Timbuktu/Remote, works the same way over modems.)

So, if you're the one who's always fixing things on the network, helping solve computer puzzles, and other office heroics, then leave your running shoes at home.

Now, you can identify problems on any Macintosh, reconfigure or update software, teach people new applications, or manage servers and other shared resources. Right from your own Macintosh. Or any other Macintosh, for that matter.

For those pressured with meeting the demand for more computing power, while justifying the cost to management, Timbuktu offers a profitable solution. And relief.

Timbuktu lets everyone access any workstation and its databases, FAX modems, print spoolers, servers, and mainframe connections. If you're concerned about security, the password protection feature will limit access to any device. You can also use Macintosh IIs as servers without buying keyboards, monitors, or video cards.

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